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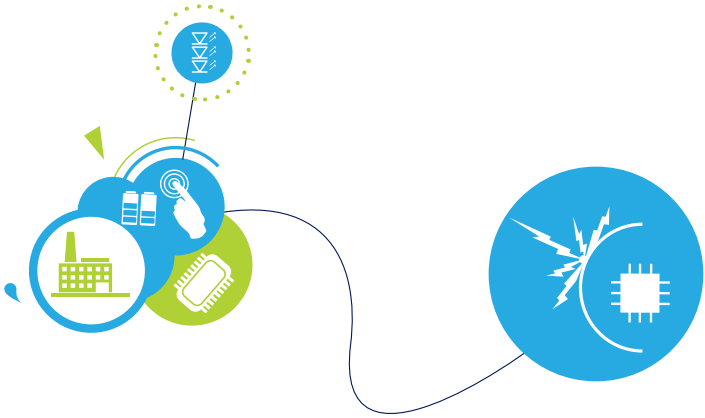
ESD, EOS, lightning surge protection, EMI filtering and interface conditioning



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Content

ESD protection: IEC 61000-4-2/MIL STD 883G-Method

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage (I_{RM}) @
		min (V)	typ (pF)	(kV)	(V)	max (
Unidirectional clamping arrays						
ESDAXLC6-1MY2	1	6	0.35 max	> 8	3	0.1
ESDALC6-1U2	1	6.1	12	> 8	3	0.1
ESDAVLC6-1V2(*)	1	6	7.5	> 12/15	3	0.0
ESDAVLC14-1V2(*)	1	14	7.5	> 12/15	12	0.1
ESDAULC6-1U2	1	6	0.8	> 8/15	3	0.1
ESDALC6V1-1M2	1	6.1	22	> 8/15	3	0.1
ESDA8V2-1J	1	8.2	210	> 8/15	5	0.5
ESDA8V2-1MX2	1	8.2	350	> 8/15	5	0.5
ESDALC12-1T2	1	12	15	> 8/15	10	0.2
ESDAVLC14-1U2	1	14.2	6	> 8/15	3	0.1
ESDA18-1F2	1	16	230	> 8/15	10	0.5
ESDA18-1F4(*)	1	16	120	> 8/15	12	0.0
ESDA12-1K	1	12	200	> 8/15	10	0.5
ESDA18-1K	1	18	200	> 8/15	16	0.5
ESDALC6V1M3	2	6.1	11	> 8/15	5	0.5
ESDA25W	2	25	65	> 8/15	24	1
ESDA5V3L	2	5.3	220	> 8/15	3	2
ESDA6V1L	2	6.1	140	> 8/15	5.25	20
ESDA14V2L	2	14.2	90	> 8/15	12	5
ESDA25L	2	25	50	> 8/15	24	1
ESDALCL6-2SC6	2	6	2.5	> 8/15	1	0.0

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage (I_{RM}) @
		min (V)	typ (pF)	(kV)	(V)	max (
ESDA5V3SC5	4	5.3	280	> 8/15	3	2
ESDA5V3SC6	4	5.3	280	> 8/15	3	2
ESDALC6V1P5	4	6.1	12	> 8/15	3	0.1
ESDALC6V1P6	4	6.1	12	> 8/15	3	0.1
ESDALC6V1W5	4	6.1	12	> 8/15	3	0.1
ESDALC6-4N4	4	6.1	9.5	> 8/15	3	0.1
ESDALCL6-4P6A	4	6	2.5	> 8/15	1	0.00
ESDA6V1P6	4	6.1	70	> 8/15	3	0.5
ESDA6V1W5	4	6.1	90	> 8/15	3	1
ESDA6V1SC5	4	6.1	190	> 8/15	5.25	20
ESDA6V1SC6	4	6.1	190	> 8/15	5.25	20
ESDA14V2SC5	4	14.2	100	> 8/15	12	5
ESDA14V2SC6	4	14.2	100	> 8/15	12	5
ESDA19SC6	4	19	80	> 8/15	15	0.1
ESDA25W5	4	25	30	> 8/15	24	1
ESDA25SC6	4	25	60	> 8/15	24	1
ESDALC6-5T6	5	6.1	7	> 8/15	3	0.1
ESDA6V1-5T6	5	6.1	12	> 8/15	3	0.1
ESDALC6V1-5M6	5	6.1	12	> 8/15	3	0.0
ESDALC6V1-5P6	5	6.1	12	> 8/15	3	0.0
ESDALC6V1-5T6	5	6.1	12	> 8/15	3	0.1
ESDA6V1-5SC6	5	6.1	50	> 8/15	3	1
ESDA6V1-5W6	5	6.1	50	> 8/15	3	1
ESDA6V1-5M6	5	6.1	70	> 8/15	3	0.5

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage (I_{RM}) @
		min (V)	typ (pF)	(kV)	(V)	max (
ESDA6V1-5P6	5	6.1	70	> 8/15	3	0.5
ESDA17-5SC6	5	17	35	> 8/15	14	0.07
ESDA6V1U1	6	6.1	100	> 8/15	5	2
ESDAULC6-8F3	8	6	1	> 8/16	3	0.1
ESDA6V1S3	18	6.1	120	> 8/15	5	2
				Bidirectional clamping arrays		
ESDARF01-1BF4	1	0.6	3	> 8/15	0.1	0.3
ESDARF01-1BM2	1	0.7	3	> 8/15	0.1	1
ESDAVLC6-1BF4	1	6	6	> 8/15	3	0.1
ESDALC5-1BF4	1	5.8	10	> 8/15	5	0.1
ESDA5-1BF4	1	5.8	45	> 8/15	5	0.1
ESDAXLC4-1BF3	1	4	0.35	> 8/8	3	0.1
ESDALC5-1BM2	1	5	27	> 8/15	5	0.1
ESDALCL5-1BM2	1	5	26	> 8/15	1	0.00
ESDALC5-1BT2	1	5	27	> 8/15	5	0.0
ESDARF03-1BF3	1	6	0.6	> 8/15	3	1
ESDALC6V1-1BU2	1	6.1	0.2	> 8/15	3	0.1
ESDAVLC6-1BV2	1	6	7.5	> 12/15	3	0.0
ESDAXLC6-1BU2	1	6.1	5	> 8/15	6	0.1
ESDAXLC6-1BT2	1	6	0.4	> 8/15	6	0.0
ESDARF02-1BU2	1	6	0.24	> 8/15	3	0.0
ESDAVLC8-1BM2	1	8.5	4.5	> 8/15	3	0.0
ESDAVLC8-1BT2	1	8.5	4.5	> 8/15	3	0.0
ESDAVLC8-1BU2	1	8.5	5	> 8/15	3	0.1

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage (I_{RM}) @
		min (V)	typ (pF)	(kV)	(V)	max (
ESDALC8-1BF4	1	7	30	> 8/15	6	0.0
ESDAVLC8-4BN4	4	8.5	4.5	> 8/15	3	0.0
ESDAVLC5-4BX4(*)	4	5.5	10	> 8/15	3	0.0
ESDALC14-1BF4	1	14	22	> 8/15	12	0.1
ESDA14V2-1BF3	1	14.2	10	> 8/15	12	0.5
ESDA14V2-2BF3	2	14.2	12	> 8/15	12	0.5
ESDAULC6-3BP6	3	6	1	> 8/15	5	0.5
ESDALC5-4BN4	4	5.5	13	> 8/15	5	0.0
ESDA6V1BC6	4	6.1	20	> 8/15	5	1
ESDA6V1-4BC6	4	6.1	45	> 8/15	3	1
ESDA14V2BP6	4	14.2	20	> 8/15	12	1
ESDA14V2-4BF3	4	14.2	15 (max)	> 8/15	12	0.5
ESDA14V2-4BF2	4	14.2	15	> 8/15	12	1
ESDA25-4BP6	4	25	22	> 8/15	24	1
ESDA25B1	6	25	15	> 8/15	24	2

(*) New products, available Q4/2013

RAIL-TO-RAIL PROTECTION

Part number	Directionality	Number of protected lines	Forward voltage V_F @ 50 mA	Capacitance (C) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltag (V_{RM})
			max (V)	max (pF)	(kV)	(V)
DA108S1RL	Unidirectional	4	1.2	35	> 8/15	18
DALC208SC6	Unidirectional	4	1.2	7	> 8/15	9
DA112S1RL	Unidirectional	6	1.2	35	> 8/15	18
DALC112S1	Unidirectional	6	1.3	7	> 6/8	18
DALC112S1RL	Unidirectional	6	1.3	7	> 6/8	18

USB PORT PROTECTION

Part number	Directionality	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Bandwidth @ -3 dB	Capacitance (C_{line}) I/O to Gnd	Capacitance (C_{line}) I/O to I/O	IEC 61000-4-2 contact/air
			min (V)	(GHz)	typ (pF)	typ (pF)	(kV)
USBULC6-2M6	Unidirectional	2	6	6	0.95	0.5	> 8/15
USBULC6-2P6	Unidirectional	2	6	5.3	1.0	0.5	> 8/15
USBLC6-2SC6	Unidirectional	2	6	3	2.5	1.2	> 8/15
USBLC6-2P6	Unidirectional	2	6	3	2.5	1.2	> 8/15
USBULC6-2N4	Unidirectional	2	6	6	0.6	-	> 8/15
USBULC6-2F3	Unidirectional	2	6	4	1.2 (max)	-	> 8/15
USBULC6-3F3	Unidirectional	3	4	8.5	1		> 8/15
USBLC6-4SC6	Unidirectional	4	6	0.8	3	1.85	> 8/15
USB6B1RL	Unidirectional	4	6	-	15	25	> 8/15
USBP01-5M8	Bidirectional	4 + Vbus	6	10	0.2	0.2	> 8/15

HIGH-SPEED PORT PROTECTION

Part number	Directionality	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Bandwidth @ -3 dB	Capacitance (C_{line}) I/O to Gnd	Capacitance (C_{line}) I/O to I/O	IEC 61000-4-2 contact/air
			min (V)	(GHz)	typ (pF)	typ (pF)	(kV)
DVIULC6-4SC6	Unidirectional	4	6	5.2	0.85	0.42	> 8/15
HDMIULC6-4SC6	Unidirectional	4	6	5.2	0.85	0.42	> 8/15
HDMIULC6-4F3	Unidirectional	4	6	7	0.7	0.05	> 8/15
DSILC6-4P6	Unidirectional	4	6	2.2	2	1.0	> 8/15
DSILC6-4F2	Unidirectional	4	6	2.3	2.5	1.25	> 8/15
DSILC6-4SC6	Unidirectional	4	6	0.83	4.1	2.1	> 8
HSP061-2M6	Unidirectional	2	6	5.9	0.85	0.42	> 8/15
HSP061-2P6	Unidirectional	2	6	5.3	0.6	0.42	> 8/15
HSP062-2M6	Unidirectional	2	6	4.8	0.8	0.55	> 8/15
HSP062-2P6	Unidirectional	2	6	4.6	0.8	0.55	> 8/15
HSP061-2N4	Unidirectional	2	6	6	0.6	0.3	> 8/15
HSP061-4NY8	Unidirectional	4	6	6	0.5	-	> 8
HSP061-4M10	Unidirectional	4	6	8.7	0.6	0.3	> 8/15
HSP051-4M10(*)	Unidirectional	4	6	8.7	0.5	0.3	> 8/15
HSP051-4N10(*)	Unidirectional	4	6	8.7	0.5	0.3	> 8/15
HSP051-6BM14(*)	Bidirectional	6	6	8.7	0.5	0.3	> 8/15
HSP051-7N16(*)	Unidirectional	7	6	8.7	0.5	0.3	> 8/15
HSP061-8M16	Unidirectional	8	6	6.3	0.6	-	> 8/15

(*) New products, available in Q4/2013

Integrated EMI filtering and ESD protection (IPAD™)

AUDIO AND VIDEO IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Target interface type	Number of lines	Package	Pin count
EMIF01-SMIC01F2	Microphones	1	Flip-Chip 500 µm	8
EMIF01-TV01F3	TV analog outputs	1	Flip-Chip 400 µm	5
EMIF01-TV02F3	TV analog outputs	1	Flip-Chip 400 µm	5
EMIF02-AV01F3	Audio and video interfaces	2	Flip-Chip 400 µm	5
EMIF02-MIC02F2	Microphones	2	Flip-Chip 500 µm	5
EMIF02-MIC02F3	Microphones	2	Flip-Chip 400 µm	5
EMIF02-MIC03F2	Microphones	2	Flip-Chip 500 µm	5
EMIF02-MIC03M6	Microphones	2	uQFN-6L	6
EMIF02-MIC06F3	Microphones	2	Flip-Chip 400 µm	8
EMIF02-MIC07F3	Microphones	2	Flip-Chip 400 µm	8
EMIF02-SPK01F2	Speakers	2	Flip-Chip 500 µm	5
EMIF02-SPK01M6	Speakers	2	uQFN-6L	6
EMIF02-SPK02F2	Speakers	2	Flip-Chip 500 µm	5
EMIF02-SPK03F2	Speakers	2	Flip-Chip 500 µm	5
EMIF04-EAR02M8	Earphones and microphones	2+2	uQFN-8L	8
EMIF05-AUD01F3	Audio	5	Flip-Chip 400 µm	12
EMIF08-0156F7	Audio	8	Flip-Chip 350 µm	20
HDMI05-CL01F3	HDMI	5	Flip-Chip 400 µm	8
HDMI05-CL02F3	HDMI	5	Flip-Chip 400 µm	8

COMPUTER AND CONSUMER IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Target interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)	Breakdo voltag (V_{BR})
					(dB)	(MHz)	min (V
HDMI2C1-5DIJ	HDMI control lines	5	DFN-16L	16	See 'IPAD™ for H		
HDMI2C1-6C1	HDMI control lines	6	QFN-18L	18	See 'IPAD™ for H		
HDMI2C1-14HD	HDMI 1.4 source	14	QFN-36L	36	-	6500	6
HDMI2C2-14HD	HDMI 1.4 sink	14	QFN-36L	36	-	6500	6
KBMF	Keyboards	2	SOT-23 6L	6	-30 dB @ 500 MHz	20	6
ST1284	IEEE 1284	17	QSOP 28	28	-25 dB @ 200 MHz	25	6
USBUF01P6	USB1.1	2	SOT-666	6	-25 dB @ 900 MHz	110	6

DISPLAY, CAMERA AND KEYPAD IPAD™

Serial interface camera and display IPAD (common-mode filters with ESD protection)

Part number	Target interface type	Number of lines	Package	Pin count	Comm
ECFM02-2AMX6	MIPI, HDMI 30 fps, MHL	2	µQFN-6L	6	
ECMF02-2BF3	DisplayPort, MIPI, HDMI 60 fps, MHL	2	Flip-Chip 400 µm	5	
ECMF02-2HSMX6	DisplayPort, MIPI, HDMI 60 fps	2	µQFN-6L	3	
ECMF02-3HSM6	DisplayPort, MIPI, HDMI 60 fps, MHL	2	µQFN-6L	6	
ECMF04-4AMX12	MIPI, HDMI 30 fps	4	µQFN-12L	12	
ECMF04-4HSM10	DisplayPort, MIPI, HDMI 60 fps	4	µQFN-10L	10	
ECMF06-6AM16	MIPI, HDMI 30 fps	6	µQFN-16L	16	
ECMF06-6HSM16	DisplayPort, MIPI, HDMI 60 fps	6	µQFN-16L	16	

fps: frames per second

DISPLAY, CAMERA AND KEYPAD IPAD™

Parallel interface display and camera IPAD, keypad IPAD (EMI filters with ESD protection)

Part number	Filter type	Number of lines	Package	Pin count	Attenuation @ frequency (dB)
EMIF04-1005M8	RC filter	4	µQFN-8L	8	-35 dB @ 900 MHz
EMIF04-1502M8	RC filter	4	µQFN-8L	8	-25 dB @ 900 MHz
EMIF05-SK01F3	RC filter	5	Flip-Chip 400 µm	11	-35 dB @ 900 MHz
EMIF06-1005M12	RC filter	6	µQFN-12L	12	-35 dB @ 900 MHz
EMIF06-1005N12	RC filter	6	µQFN-12L	12	-35 dB @ 900 MHz
EMIF06-1502M12	RC filter	6	µQFN-12L	12	-25 dB @ 900 MHz
EMIF06-VID01F2	RC filter	6	Flip-Chip 500 µm	12	-40 dB @ 900 MHz
EMIF07-LCD02F3	RC filter	7	Flip-Chip 400 µm	19	-25 dB @ 900 MHz
EMIF08-0402T16	RC filter	8	µQFN-16L	16	-22 dB @ 2 GHz
EMIF08-1005M16	RC filter	8	µQFN-16L	16	-35 dB @ 900 MHz
EMIF08-1005T16	RC filter	8	µQFN-16L	16	-35 dB @ 900 MHz
EMIF08-1502M16	RC filter	8	µQFN-16L	16	-30 dB @ 900 MHz
EMIF08-LCD04M16	LC filter	8	µQFN-16L	16	-35 dB @ 900 MHz
EMIF08-VID01F2	RC filter	8	Flip-Chip 500 µm	19	-33 dB @ 900 MHz
EMIF10-1K010F2	RC filter	10	Flip-Chip 500 µm	23	-25 dB @ 900 MHz
EMIF10-COM01F2	RC filter	10	Flip-Chip 500 µm	23	-37 dB @ 900 MHz
EMIF10-LCD02F3	RC filter	10	Flip-Chip 400 µm	25	-23 dB @ 900 MHz

MEMORY AND SIM CARD IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Band (@ -
					(dB)	(M
EMIF03-SIM01F2	SIM cards	3	Flip-Chip 500 µm	8	-35 dB @ 900 MHz	1
EMIF03-SIM02F2	SIM cards	3	Flip-Chip 500 µm	8	-22 dB @ 900 MHz	2
EMIF03-SIM02F3	SIM cards	3	Flip-Chip 400 µm	8	-19 dB @ 900 MHz	2
EMIF03-SIM02M8	SIM cards	3	µQFN-8L	8	-18 dB @ 900 MHz	2
EMIF03-SIM03F3	SIM cards	3	Flip-Chip 400 µm	8	-15 dB @ 900 MHz	3
EMIF03-SIM04F3	SIM cards	3	Flip-Chip 400 µm	12	-12 dB @ 900 MHz	4
EMIF03-SIM05F3	SIM cards with SWP (NFC)	4	Flip-Chip 400 µm	8	-12 dB @ 900 MHz	3
EMIF03-SIM06F3	SIM cards with SWP (NFC) with USB interchip	3	Flip-Chip 400 µm	11	-12 dB @ 900 MHz	4
EMIF06-HMC01F2	Mini- and micro-SD cards	6	Flip-Chip 500 µm	12	-19 dB @ 900 MHz	2
EMIF06-MSD02N16	Mini- and micro-SD cards	6	µQFN-16L	16	-18 dB @ 900 MHz	3
EMIF06-MSD03F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	12	-15 dB @ 2 GHz	5
EMIF06-MSD04F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	12	-15 dB @ 2 GHz	5
EMIF06-HSD03F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	17	-20 dB @ 900 MHz	3
EMIF06-SD03F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	26	-21 dB @ 900 MHz	1
EMIF06-mSD01F2	Mini- and micro-SD cards	6	Flip-Chip 500 µm	12	-14 dB @ 900 MHz	3
EMIF06-mSD02C3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	12	-14 dB @ 900 MHz	3
EMIF09-SD01F3	Mini- and micro-SD cards	9	Flip-Chip 400 µm	25	-16 dB @ 900 MHz	3

STANDARD MULTILINE BUS IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)
				(dB)	(MHz)
EMIF01-10005W5	2	SOT323-5L	5	-25 dB @ 900 MHz	150
EMIF01-1003M3	1	SOT-883	3	-27 dB @ 900 MHz	180
EMIF02-1003M6	2	µQFN-6L	6	-25 dB @ 900 MHz	180
EMIF04-1005M8	4	µQFN-8L	8	-35 dB @ 900 MHz	110
EMIF04-1502M8	4	µQFN-8L	8	-25 dB @ 900 MHz	210
EMIF06-10006C2	6	Flip-Chip 500 µm	12	-38 dB @ 900 MHz	80
EMIF06-1002F2	6	Flip-Chip 500 µm	12	-19 dB @ 900 MHz	280
EMIF06-1005M12	6	µQFN-12L	12	-35 dB @ 900 MHz	110
EMIF06-1502M12	6	µQFN-12L	12	-25 dB @ 900 MHz	210
EMIF08-1005M16	8	µQFN-16L	16	-35 dB @ 900 MHz	110
EMIF08-1502M16	8	µQFN-16L	16	-30 dB @ 900 MHz	210
EMIF08-1005T16	8	µQFN-16L	16	-35 dB @ 900 MHz	110

USB IPAD™ (COMMON-MODE AND EMI FILTERS, WITH ESD PROTECTION)

Part number	Filter type	Interface type	Number of lines	Package	Pin count	Attenuation @ (dB)
ECMF02-2AMX6	Common-mode filter	USB 2.0 and MIPI	2	µQFN-6L	6	-34 dB @ 9
ECMF02-2HSMX6	Common-mode filter	USB3.0	2	µQFN-6L	6	-25 dB @ 9 -40 dB @ 12 -20 dB @ 24
ECMF02-2BF3	Common-mode filter	USB2.0	2	Flip-Chip 400 µm	5	-25 dB @ 9
ECMF02-3F3	Common-mode filter	USB2.0	3	Flip-Chip 400 µm	6	-28 dB @ 9
ECMF02-3HSM6	Common-mode filter	USB3.0	2	µQFN-6L	6	-33 dB @ 9
ECMF02-4CMX8	Common-mode filter	USB2.0	4	µQFN-8L	8	-27 dB @ 9
ECMF04-4HSM10	Common-mode filter	USB3.0	4	µQFN-10L	10	-33 dB @ 9
ECMF04-6HSM16	Common-mode filter	USB3.0	6	µQFN-16L	16	-33 dB @ 9
EMIF02-USB01F2	EMI filter with R pull-up	USB1.1	2	Flip-Chip 500 µm	8	-25 dB @ 9
EMIF02-USB03F2	EMI filter with R pull-up	USB1.1	2	Flip-Chip 500 µm	11	-14 dB @ 9
EMIF02-USB04F3	EMI filter	USB1.1	3	Flip-Chip 400 µm	8	-12 dB @ 9
EMIF02-USB05F2	EMI filter with R pull-up	USB1.1	2	Flip-Chip 500 µm	8	-20 dB @ 9
USBDF01W5	EMI filter with R pull-up	USB1.1	2	SOT323-5L	5	-25 dB @ 9
USBDF02W5	EMI filter with R pull-up	USB1.1	2	SOT323-5L	5	-25 dB @ 9
USBUF01W6	EMI filter with R pull-up	USB1.1	2	SOT323-6L	6	-28 dB @ 9
USBUF02W6	EMI filter with R pull-up	USB1.1	2	SOT323-6L	6	-28 dB @ 9
USBUF01P6	EMI fiter with R pull-up	USB1.1	2	SOT-666	6	-25 dB @ 9

ECMF™ SERIES (COMMON-MODE FILTERS WITH ESD PROTECTION)

Part number	Interface type	Number of lines	Package	Pin count	Atte
ECMF02-2AMX6	USB2.0, HDMI 30 fps, MIPI	2	µQFN-6L	6	-3
ECMF02-2BF3	USB2.0, HDMI 30 fps, MIPI, MHL	2	Flip-Chip 400 µm	5	-3
ECMF02-2HSMX6	USB3.0 specific, DisplayPort, MHL, MIPI, HDMI 60 fps	2	µQFN-6L	6	-3 -4
ECMF02-3F3	USB2.0	3	Flip-Chip 400 µm	6	-3
ECMF02-3HSM6	USB2.0, USB3.0, HDMI 60 fps, MIPI, MHL	2	µQFN-6L	6	-
ECMF02-4CMX8	USB2.0 specific with integrated VBUS 16, V EOS protection	4	µQFN-8L	8	-
ECMF04-4AMX12	MIPI	4	µQFN-12L	12	-3
ECMF04-4HSM10	MIPI, DisplayPort, USB3.0, HDMI 60 fps	4	µQFN-10L	10	-
ECMF06-6AM16	MIPI	6	µQFN-16L	16	-
ECMF06-6HSM16	MIPI, DisplayPort, USB3.0, HDMI 60 fps	6	µQFN-16L	16	-

fps: frames per second

HIGH-CAPACITANCE DENSITY IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Target interface type	Number of lines	Package	Attenuation @ frequency (dB)	
EMIF01-SMIC01F2	Microphones	1	Flip-Chip 500 µm	-52 dB @ 900 MHz	
EMIF02-AV01F3	Audio and video	2	Flip-Chip 400 µm	-35 dB @ 900 MHz	
EMIF02-MIC06F3	Microphones	2	Flip-Chip 400 µm	-46 dB @ 900 MHz	
EMIF08-0156F7	Audio	8	Flip-Chip 350 µm	-25 dB @ 900 MHz	

EOS 8/20 µs surge protection: IEC 61000-4-5/IEC 610

DATALINE PROTECTION: SURGE CURRENT ≤ 24 A

Low forward voltage Transil™

Part number	Directionality	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R	
		(W)	max (A)	(V)	max (µA)	min (V)	(mA)
LFTVS10-1F3	Unidirectional	350	-	8	0.5	10	15
LFTVS18-1F3	Unidirectional	350	5	10	0.5	18	1
ESDA18-1F2	Unidirectional	700	20	12	0.1	16	1
ESDA18-1F4(*)	Unidirectional	350	13	12	0.1	16	1
ESDA12-1K	Unidirectional	500	16	10	0.1	12	1
ESDA18-1K	Unidirectional	500	12	16	0.1	16	1
ESDA8V2-1J	Unidirectional	500	24	6	0.1	8	1

(*) New products, available in Q4-2013

Part number	Directionality	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Forward voltage V_F @ 1 A
		(W)	(V)	max (µA)	(V)	(mA)	max (V)
400 W low forward voltage Transils							
SMTY18AM	Unidirectional	400	16	4000	18	1	0.42
SMTYF18A	Unidirectional	400	16	100	18	1	0.42
4000 W low forward voltage Transils							
SMTYF5.0A	Unidirectional	4000	5	10	6.4	10	0.48
SMTYF12A	Unidirectional	4000	12	20	13.2	1	0.48

Automation sensor tripolar protection

Part number	Directionality	Number of protected lines	Peak pulse current (P_{PP}) 8/20 µs @ 25 °C	IEC 61000-4-5 R = 500 Ω	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdow V_{BR}	
			max (A)	(kV)	(V)	max (µA)	min (V)	ty
SPT01-335DEE	Unidirectional	3	2	1	36	1	38	4
SPT02-236DDB	Unidirectional	2	2	1	36	1	38	4

POWER LINE PROTECTION: SURGE CURRENT ≥ 24 A

24 A: Power-over-Ethernet protection

Part number	Directionality	Number of protected lines	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}
			(W)	max (A)	max (A)	(V)	max (µA)
PEP01-5841	Unidirectional	4	2700	24	15	58	4000

24 A: Ethernet dataline protection

Part number	Directionality	Number of protected lines	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}
			(W)	max (A)	max (A)	(V)	max (µA)
SLVU2.8-4A1	Unidirectional	4	600	30	24	2.8	0.2
SLVU2.8-8A1	Unidirectional	8	600	30	24	2.8	0.2

40 A: Industrial dataline protection

Part number	Directionality	Number of protected lines	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
			(W)	max (A)	max (A)	(V)	max (µA)	
ITA6V5B1RL	Bidirectional	4	300	40	25	5	10	
ITA6V1U1RL	Unidirectional	6	300	40	25	5	10	
ITA10B1RL	Bidirectional	4	300	40	25	8	4	
ITA18B1RL	Bidirectional	4	300	40	25	15	4	
ITA25B1RL	Bidirectional	4	300	40	25	24	4	
ITA6V5B3RL	Bidirectional	8	300	40	25	5	10	
ITA18B3RL	Bidirectional	8	300	40	25	15	4	
ITA25B3RL	Bidirectional	8	300	40	25	24	4	

Low-noise block (LNB) voltage regulator protection

Part number	Directionality	IEC 61000-4-5 R = 12 Ω	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Break	
		(kV)	max (A)	(V)	max (µA)	min (V)	typ (
LNBTVS3-220U	Unidirectional	3	250	20	1	22	23.
LNBTVS4-220S	Unidirectional	4	334	20	1	22	23.
LNBTVS4-221S	Unidirectional	4	334	20	1	22	23.
LNBTVS4-222S	Unidirectional	4	334	20	1	22	23.
LNBTVS6-220S	Unidirectional	6	500	20	1	22	23.
LNBTVS6-221S	Unidirectional	6	500	20	1	22	23.
LNBTVS4-304S	Unidirectional	0.75 (1)	334	28	1	30	31.
LNBTVS6-304S	Unidirectional	1 (1)	500	28	1	30	31.

(1) IEC 61000-4-5 R = 2 Ω

500 A, 8/20 µs: IEC 61000-4-5 protection

Part number	Directionality	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Break
		(W)	max (A)	max (A)	(V)	max (µA)	min (
STIEC45-24AS	Unidirectional	21	500	410	24	0.2	26.7
STIEC45-26AS	Unidirectional	23	500	410	26	0.2	28.9
STIEC45-27AS	Unidirectional	24	500	410	27	0.2	30
STIEC45-28AS	Unidirectional	25	500	410	28	0.2	31.1
STIEC45-30AS	Unidirectional	28	500	410	30	0.2	33.3
STIEC45-33AS	Unidirectional	30	500	410	33	0.2	36.7

EOS 10/10000 µs surge protection

GENERAL-PURPOSE TVS

100 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Bre
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	mi
SMX1J7.5A-TR		85	78	800	7.5	1	2	8

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	
SMAJ series								
SMAJ5.0A-TR	SMAJ5.0CA-TR	400	270	2200	5	20	50	
SMAJ6.0A-TR	SMAJ6.0CA-TR	400	270	2200	6	20	50	
SMAJ6.5A-TR	SMAJ6.5CA-TR	400	270	2200	6.5	20	50	
SMAJ8.5A-TR	SMAJ8.5CA-TR	400	270	2200	8.5	20	50	
SMAJ10A-TR	SMAJ10CA-TR	400	270	2200	10	0.2	1	
SMAJ12A-TR	SMAJ12CA-TR	400	270	2200	12	0.2	1	
SMAJ13A-TR	SMAJ13CA-TR	400	270	2200	13	0.2	1	
SMAJ15A-TR	SMAJ15CA-TR	400	270	2200	15	0.2	1	
SMAJ18A-TR	SMAJ18CA-TR	400	270	2200	18	0.2	1	
SMAJ20A-TR	SMAJ20CA-TR	400	270	2200	20	0.2	1	
SMAJ22A-TR	SMAJ22CA-TR	400	270	2200	22	0.2	1	

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMAJ24A-TR	SMAJ24CA-TR	400	270	2200	24	0.2	1
SMAJ26A-TR	SMAJ26CA-TR	400	270	2200	26	0.2	1
SMAJ28A-TR	SMAJ28CA-TR	400	270	2200	28	0.2	1
SMAJ30A-TR	SMAJ30CA-TR	400	270	2200	30	0.2	1
SMAJ33A-TR	SMAJ33CA-TR	400	270	2200	33	0.2	1
SMAJ40A-TR	SMAJ40CA-TR	400	270	2200	40	0.2	1
SMAJ43A-TR	SMAJ43CA-TR	400	270	2200	43	0.2	1
SMAJ48A-TR	SMAJ48CA-TR	400	270	2200	48	0.2	1
SMAJ58A-TR	SMAJ58CA-TR	400	270	2200	58	0.2	1
SMAJ70A-TR	SMAJ70CA-TR	400	270	2200	70	0.2	1
SMAJ85A-TR	SMAJ85CA-TR	400	270	2200	85	0.2	1
SMAJ130A-TR	SMAJ130CA-TR	400	270	2200	130	0.2	1
SMAJ154A-TR	SMAJ154CA-TR	400	270	2200	154	0.2	1
SMAJ170A-TR	SMAJ170CA-TR	400	270	2200	170	0.2	1
SMAJ188A-TR	SMAJ188CA-TR	400	270	2200	188	0.2	1
High junction temperature SMM4F and SMA4F series							
SMM4F5.0A-TR		400	200	2200	5	10	50
SMM4F6.0A-TR		400	200	2200	6	10	50
SMM4F6.5A-TR		400	200	2200	6.5	10	50
SMM4F8.5A-TR		400	200	2200	8.5	10	50
SMM4F10A-TR		400	200	2200	10	0.2	1
SMM4F12A-TR		400	200	2200	12	0.2	1

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMM4F13A-TR		400	200	2200	13	0.2	1
SMM4F15A-TR		400	200	2200	15	0.2	1
SMM4F18A-TR		400	200	2200	18	0.2	1
SMM4F20A-TR		400	200	2200	20	0.2	1
SMM4F24A-TR		400	200	2200	24	0.2	1
SMM4F26A-TR		400	200	2200	26	0.2	1
SMM4F28A-TR		400	200	2200	28	0.2	1
SMM4F33A-TR		400	200	2200	33	0.2	1
SMA4F5.0A-TR		400	200	2200	5	10	50
					High junction temperature BZW04 series (*)		
BZW04-5V8	BZW04-5V8B	400	220	2200	5.8	1000	-
BZW04-10	BZW04-10B	400	220	2200	10.2	5	-
BZW04-13	BZW04-13B	400	220	2200	12.8	5	-
BZW04-15	BZW04-15B	400	220	2200	15.3	1	-
BZW04-26	BZW04-26B	400	220	2200	25.6	1	-
BZW04-28	BZW04-28B	400	220	2200	28.2	1	-
BZW04-31	BZW04-31B	400	220	2200	30.8	1	-
BZW04-33	BZW04-33B	400	220	2200	33.3	1	-
BZW04-48	BZW04-48B	400	220	2200	47.8	1	-
BZW04-70	BZW04-70B	400	220	2200	70	1	-
BZW04-239	BZW04-239B	400	220	2200	239	1	-
BZW04-299	BZW04-299B	400	220	2200	299	1	-

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
BZW04-342	BZW04-342B	400	220	2200	342	1	-
BZW04-376	BZW04-376B	400	220	2200	376	1	-

(*) I_{RM} given at 25 °C

600 W Transil™ (TVS)

Part number	Peak pulse power (P_{PP}) 10/1000 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clampin (V_{CL}) 10/1
Unidirectional	(W)	(V)	max (µA)	min (V)	(mA)	max (V)
Low forward voltage series						
SMTY5.0A	600	5	10	6.4	10	9
SMTY12A	600	12	20	13.2	1	18.5

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SM6T series							
SM6T6V8A	SM6T6V8CA	600	515	4000	5.8	20	50
SM6T7V5A	SM6T7V5CA	600	515	4000	6.4	20	50
SM6T10A	SM6T10CA	600	515	4000	8.55	20	50
SM6T12A	SM6T12CA	600	515	4000	10.2	0.2	1
SM6T15A	SM6T15CA	600	515	4000	12.8	0.2	1
SM6T18A	SM6T18CA	600	515	4000	15.3	0.2	1
SM6T22A	SM6T22CA	600	515	4000	18.8	0.2	1
SM6T24A	SM6T24CA	600	515	4000	20.5	0.2	1
SM6T27A	SM6T27CA	600	515	4000	23.1	0.2	1
SM6T30A	SM6T30CA	600	515	4000	25.6	0.2	1
SM6T33A	SM6T33CA	600	515	4000	28.2	0.2	1
SM6T36A	SM6T36CA	600	515	4000	30.8	0.2	1
SM6T39A	SM6T39CA	600	515	4000	33.3	0.2	1
SM6T56A	SM6T56CA	600	515	4000	47.6	0.2	1
SM6T68A	SM6T68CA	600	515	4000	58.1	0.2	1
SM6T100A	SM6T100CA	600	515	4000	85.5	0.2	1
SM6T150A	SM6T150CA	600	515	4000	128	0.2	1
SM6T200A	SM6T200CA	600	515	4000	171	0.2	1
SM6T220A	SM6T220CA	600	515	4000	188	0.2	1

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
					High junction temperature P6KE series		
P6KE6V8A	P6KE6V8CA	600	330	4000	5.8	10	6.45
P6KE7V5A	P6KE7V5CA	600	330	4000	6.4	10	7.13
P6KE10A	P6KE10CA	600	330	4000	8.55	1	9.5
P6KE12A	P6KE12CA	600	330	4000	10	0.5	11.4
P6KE15A	P6KE15CA	600	330	4000	12.8	0.5	14.3
P6KE18A	P6KE18CA	600	330	4000	15.3	0.5	17.1
P6KE24A	P6KE24CA	600	330	4000	20	0.5	22.8
P6KE27A	P6KE27CA	600	330	4000	23.1	0.5	25.7
P6KE30A	P6KE30CA	600	330	4000	25.6	0.5	28.5
P6KE33A	P6KE33CA	600	330	4000	28.2	0.5	31.4
P6KE36A	P6KE36CA	600	330	4000	30.8	0.5	34.2
P6KE39A	P6KE39CA	600	330	4000	33.3	0.5	37.1
P6KE47A	P6KE47CA	600	330	4000	40	0.5	44.7
P6KE56A	P6KE56CA	600	330	4000	47.8	0.5	53.2
P6KE68A	P6KE68CA	600	330	4000	58.1	0.5	64.6
P6KE82A	P6KE82CA	600	330	4000	70.1	0.5	77.9
P6KE150A	P6KE150CA	600	330	4000	128	0.5	143
P6KE180A	P6KE180CA	600	330	4000	154	0.5	171
P6KE200A	P6KE200CA	600	330	4000	171	0.5	190
P6KE220A	P6KE220CA	600	330	4000	188	0.5	209
P6KE250A	P6KE250CA	600	330	4000	213	0.5	237

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
P6KE300A	P6KE300CA	600	330	4000	256	0.5	285
P6KE400A	P6KE400CA	600	330	4000	342	0.5	380
P6KE440A	P6KE440CA	600	330	4000	376	0.5	418

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMBJ series							
SMLVT3V3		600	330	2000	3.3	200	-
SMBJ5.0A-TR	SMBJ5.0CA-TR	600	515	4000	5	20	50
SMBJ6.0A-TR	SMBJ6.0CA-TR	600	515	4000	6	20	50
SMBJ6.5A-TR	SMBJ6.5CA-TR	600	515	4000	6.5	20	50
SMBJ8.5A-TR	SMBJ8.5CA-TR	600	515	4000	8.5	10	9.4
SMBJ10A-TR	SMBJ10CA-TR	600	515	4000	10	20	50
SMBJ12A-TR	SMBJ12CA-TR	600	515	4000	12	0.2	1
SMBJ13A-TR	SMBJ13CA-TR	600	515	4000	13	0.2	1
SMBJ15A-TR	SMBJ15CA-TR	600	515	4000	15	0.2	1
SMBJ16A-TR	SMBJ16CA-TR	600	515	4000	16	0.2	17.8
SMBJ18A-TR	SMBJ18CA-TR	600	515	4000	18	0.2	1
SMBJ20A-TR	SMBJ20CA-TR	600	515	4000	20	0.2	22.2

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMBJ22A-TR	SMBJ22CA-TR	600	515	4000	22	0.2	1
SMBJ24A-TR	SMBJ24CA-TR	600	515	4000	24	0.2	1
SMBJ26A-TR	SMBJ26CA-TR	600	515	4000	26	0.2	1
SMBJ28A-TR	SMBJ28CA-TR	600	515	4000	28	0.2	1
SMBJ30A-TR	SMBJ30CA-TR	600	515	4000	30	0.2	1
SMBJ33A-TR	SMBJ33CA-TR	600	515	4000	33	0.2	1
SMBJ36A-TR	SMBJ36CA-TR	600	515	4000	36	0.2	1
SMBJ40A-TR	SMBJ40CA-TR	600	515	4000	40	0.2	1
SMBJ48A-TR	SMBJ48CA-TR	600	515	4000	48	0.2	1
SMBJ58A-TR	SMBJ58CA-TR	600	515	4000	58	0.2	1
SMBJ70A-TR	SMBJ70CA-TR	600	515	4000	70	0.2	1
SMBJ85A-TR	SMBJ85CA-TR	600	515	4000	85	0.2	1
SMBJ100A-TR	SMBJ100CA-TR	600	515	4000	100	0.2	111
SMBJ130A-TR	SMBJ130CA-TR	600	515	4000	130	0.2	1
SMBJ154A-TR	SMBJ154CA-TR	600	515	4000	154	0.2	1
SMBJ170A-TR	SMBJ170CA-TR	600	515	4000	170	0.2	1
SMBJ188A-TR	SMBJ188CA-TR	600	515	4000	188	0.2	1

600 W Transil™ (TVS)

Part number	Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breako
Unidirectional	(W)	(W)	(W)	(V)	max (µA)	min (
SMBJ series						
SMBF5.0A-TR	600	300	4000	5	800	6.4
SMBF13A-TR	600	300	4000	13	0.2	14.4

High junction temperature 600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMA6J series							
SMA6J5.0A-TR	SMA6J5.0CA-TR	600	300	4000	5	10	50
SMA6J6.0A-TR	SMA6J6.0CA-TR	600	300	4000	6	10	50
SMA6J6.5A-TR	SMA6J6.5CA-TR	600	300	4000	6.5	10	50
SMA6J8.5A-TR	SMA6J8.5CA-TR	600	300	4000	8.5	10	50
SMA6J10A-TR	SMA6J10CA-TR	600	300	4000	10	0.2	1
SMA6J12A-TR	SMA6J12CA-TR	600	300	4000	12	0.2	1
SMA6J13A-TR	SMA6J13CA-TR	600	300	4000	13	0.2	1
SMA6J15A-TR	SMA6J15CA-TR	600	300	4000	15	0.2	1
SMA6J18A-TR	SMA6J18CA-TR	600	300	4000	18	0.2	1
SMA6J20A-TR	SMA6J20CA-TR	600	300	4000	20	0.2	1
SMA6J24A-TR	SMA6J24CA-TR	600	300	4000	24	0.2	1
SMA6J26A-TR	SMA6J26CA-TR	600	300	4000	26	0.2	1
SMA6J28A-TR	SMA6J28CA-TR	600	300	4000	28	0.2	1

High junction temperature 600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMA6J33A-TR	SMA6J33CA-TR	600	300	4000	33	0.2	1
SMA6J40A-TR	SMA6J40CA-TR	600	300	4000	40	0.2	1
SMA6J48A-TR	SMA6J48CA-TR	600	300	4000	48	0.2	1
SMA6J58A-TR	SMA6J58CA-TR	600	300	4000	58	0.2	1
SMA6J70A-TR	SMA6J70CA-TR	600	300	4000	70	0.2	1
SMA6J85A-TR	SMA6J85CA-TR	600	300	4000	85	0.2	1
SMA6J100A-TR	SMA6J100CA-TR	600	300	4000	100	0.2	1
SMA6J130A-TR	SMA6J130CA-TR	600	300	4000	130	0.2	1
SMA6J154A-TR	SMA6J154CA-TR	600	300	4000	154	0.2	1
SMA6J170A-TR	SMA6J170CA-TR	600	300	4000	170	0.2	1
SMA6J188A-TR	SMA6J188CA-TR	600	300	4000	188	0.2	1
High junction temperature SMA6F series							
SMA6F5.0A-TR		600	300	4000	5	10	50
SMA6F12AVCL		600	300	4000	12	0.2	1
SMA6F13A-TR		600	300	4000	13	0.2	1
High junction temperature BZW06 series [1]							
BZW06-5V8	BZW06-5V8B	600	330	4000	5.8	1000	-
BZW06-6V4	BZW06-6V4B	600	330	4000	6.4	500	-
BZW06-10	BZW06-10B	600	330	4000	10.2	5	-
BZW06-13	BZW06-13B	600	330	4000	12.8	5	-
BZW06-15	BZW06-15B	600	330	4000	15.3	1	-
BZW06-19	BZW06-19B	600	330	4000	18.8	1	-

High junction temperature 600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
BZW06-23	BZW06-23B	600	330	4000	23.1	1	-
BZW06-26	BZW06-26B	600	330	4000	25.6	1	-
BZW06-28	BZW06-28B	600	330	4000	28.2	1	-
BZW06-31	BZW06-31B	600	330	4000	30.8	1	-
BZW06-33	BZW06-33B	600	330	4000	33.3	1	-
BZW06-48	BZW06-48B	600	330	4000	47.8	1	-
BZW06-273	BZW06-273B	600	330	4000	273	1	-
BZW06-342	BZW06-342B	600	330	4000	342	1	-
BZW06-376	BZW06-376B	600	330	4000	376	1	-

(1) I_{RM} given at 25 °C

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SM15T series							
SM5908		1500	825	-	5	300	-
SM15T6V8A	SM15T6V8CA	1500	1250	10000	5.8	500	2000
SM15T7V5A	SM15T7V5CA	1500	1250	10000	6.4	250	1000
SM15T10A	SM15T10CA	1500	1250	10000	8.55	10	50
SM15T12A	SM15T12CA	1500	1250	10000	10.2	0.2	1
SM15T15A	SM15T15CA	1500	1250	10000	12.8	0.2	1
SM15T18A	SM15T18CA	1500	1250	10000	15.3	0.2	1
SM15T22A	SM15T22CA	1500	1250	10000	18.8	0.2	1
SM15T24A	SM15T24CA	1500	1250	10000	20.5	0.2	1
SM15T27A	SM15T27CA	1500	1250	10000	23.1	0.2	1
SM15T30A	SM15T30CA	1500	1250	10000	25.6	0.2	1
SM15T33A	SM15T33CA	1500	1250	10000	28.2	0.2	1
SM15T36A	SM15T36CA	1500	1250	10000	30.8	0.2	1
SM15T39A	SM15T39CA	1500	1250	10000	33.3	0.2	1
SM15T68A	SM15T68CA	1500	1250	10000	58.1	0.2	1
SM15T75A	SM15T75CA	1500	1250	10000	64.1	0.2	1
SM15T100A	SM15T100CA	1500	1250	10000	85.5	0.2	1
SM15T150A	SM15T150CA	1500	1250	10000	128	0.2	1
SM15T200A	SM15T200CA	1500	1250	10000	171	0.2	1
SM15T220A	SM15T220CA	1500	1250	10000	188	0.2	1

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMCJ series							
SMCJ5.0A-TR	SMCJ5.0CA-TR	1500	1250	10000	5	500	2000
SMCJ6.0A-TR	SMCJ6.0CA-TR	1500	1250	10000	6	500	2000
SMCJ6.5A-TR	SMCJ6.5CA-TR	1500	1250	10000	6.5	250	1000
SMCJ8.5A-TR	SMCJ8.5CA-TR	1500	1250	10000	8.5	10	50
SMCJ10A-TR	SMCJ10CA-TR	1500	1250	10000	10	0.2	1
SMCJ12A-TR	SMCJ12CA-TR	1500	1250	10000	12	0.2	1
SMCJ13A-TR	SMCJ13CA-TR	1500	1250	10000	13	0.2	1
SMCJ15A-TR	SMCJ15CA-TR	1500	1250	10000	15	0.2	1
SMCJ18A-TR	SMCJ18CA-TR	1500	1250	10000	18	0.2	1
SMCJ20A-TR	SMCJ20CA-TR	1500	1250	10000	20	0.2	1
SMCJ22A-TR	SMCJ22CA-TR	1500	1250	10000	22	0.2	1
SMCJ24A-TR	SMCJ24CA-TR	1500	1250	10000	24	0.2	1
SMCJ26A-TR	SMCJ26CA-TR	1500	1250	10000	26	0.2	1
SMCJ28A-TR	SMCJ28CA-TR	1500	1250	10000	28	0.2	1
SMCJ30A-TR	SMCJ30CA-TR	1500	1250	10000	30	0.2	1
SMCJ33A-TR	SMCJ33CA-TR	1500	1250	10000	33	0.2	1
SMCJ40A-TR	SMCJ40CA-TR	1500	1250	10000	40	0.2	1
SMCJ48A-TR	SMCJ48CA-TR	1500	1250	10000	48	0.2	1
SMCJ58A-TR	SMCJ58CA-TR	1500	1250	10000	58	0.2	1
SMCJ70A-TR	SMCJ70CA-TR	1500	1250	10000	70	0.2	1
SMCJ85A-TR	SMCJ85CA-TR	1500	1250	10000	85	0.2	1

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
SMCJ130A-TR	SMCJ130CA-TR	1500	1250	10000	130	0.2	1
SMCJ154A-TR	SMCJ154CA-TR	1500	1250	10000	154	0.2	1
SMCJ170A-TR	SMCJ170CA-TR	1500	1250	10000	170	0.2	1
SMCJ188A-TR	SMCJ188CA-TR	1500	1250	10000	188	0.2	1
High junction temperature 1.5KE series							
1N5908		1500	825	-	5	300	6
1.5KE6V8A	1.5KE6V8CA	1500	825	10000	5.8	1000	6.45
1.5KE7V5A	1.5KE7V5CA	1500	825	10000	6.4	500	7.13
1.5KE10A	1.5KE10CA	1500	825	10000	8.55	10	9.5
1.5KE12A	1.5KE12CA	1500	825	10000	10.2	1	11.4
1.5KE15A	1.5KE15CA	1500	825	10000	12.8	1	14.3
1.5KE18A	1.5KE18CA	1500	825	10000	15.3	1	17.1
1.5KE22A	1.5KE22CA	1500	825	10000	18.8	1	20.9
1.5KE24A	1.5KE24CA	1500	825	10000	20.5	1	22.8
1.5KE27A	1.5KE27CA	1500	825	10000	23.1	1	25.7
1.5KE30A	1.5KE30CA	1500	825	10000	25.6	1	28.5
1.5KE33A	1.5KE33CA	1500	825	10000	28.2	1	31.4
1.5KE36A	1.5KE36CA	1500	825	10000	30.8	1	34.2
1.5KE39A	1.5KE39CA	1500	825	10000	33.3	1	37.1
1.5KE43A	1.5KE43CA	1500	825	10000	36.8	1	40.9
1.5KE47A	1.5KE47CA	1500	825	10000	40.2	1	44.7
1.5KE56A	1.5KE56CA	1500	825	10000	47.8	1	53.2

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
1.5KE62A	1.5KE62CA	1500	825	10000	53	1	58.9
1.5KE68A	1.5KE68CA	1500	825	10000	58.1	1	64.6
1.5KE75A	1.5KE75CA	1500	825	10000	64.1	1	71.3
1.5KE82A	1.5KE82CA	1500	825	10000	70.1	1	77.9
1.5KE100A	1.5KE100CA	1500	825	10000	85.5	1	95
1.5KE120A	1.5KE120CA	1500	825	10000	102	1	114
1.5KE130A	1.5KE130CA	1500	825	10000	111	1	124
1.5KE150A	1.5KE150CA	1500	825	10000	128	1	143
1.5KE180A	1.5KE180CA	1500	825	10000	154	1	171
1.5KE200A	1.5KE200CA	1500	825	10000	171	1	190
1.5KE220A	1.5KE220CA	1500	825	10000	188	1	209
1.5KE250A	1.5KE250CA	1500	825	10000	213	1	237
1.5KE300A	1.5KE300CA	1500	825	10000	256	1	285
1.5KE350A	1.5KE350CA	1500	825	10000	299	1	332
1.5KE400A	1.5KE400CA	1500	825	10000	342	1	380
1.5KE440A	1.5KE440CA	1500	825	10000	376	1	418

3000 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)
					SMC30J series		
SMC30J6.0A	SMC30J6.0CA	3000	2200	28000	6	500	2000
SMC30J6.5A	SMC30J6.5CA	3000	2200	28000	6.5	250	1000
SMC30J8.5A	SMC30J8.5CA	3000	2200	28000	8.5	10	50
SMC30J10A	SMC30J10CA	3000	2200	28000	10	0.2	1
SMC30J12A	SMC30J12CA	3000	2200	28000	12	0.2	1
SMC30J13A	SMC30J13CA	3000	2200	28000	13	0.2	1
SMC30J15A	SMC30J15CA	3000	2200	28000	15	0.2	1
SMC30J16A	SMC30J16CA	3000	2200	28000	16	0.2	1
SMC30J18A	SMC30J18CA	3000	2200	28000	18	0.2	1
SMC30J20A	SMC30J20CA	3000	2200	28000	20	0.2	1
SMC30J22A	SMC30J22CA	3000	2200	28000	22	0.2	1
SMC30J24A	SMC30J24CA	3000	2200	28000	24	0.2	1
SMC30J26A	SMC30J26CA	3000	2200	28000	26	0.2	1
SMC30J28A	SMC30J28CA	3000	2200	28000	28	0.2	1
SMC30J30A	SMC30J30CA	3000	2200	28000	30	0.2	1
SMC30J33A	SMC30J33CA	3000	2200	28000	33	0.2	1

5000 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	max (µA)
				High junction temperature BZW50 series		
BZW50-10	BZW50-10B	5000	2750	60000	10	5
BZW50-12	BZW50-12B	5000	2750	60000	12	5
BZW50-180	BZW50-18B	5000	2750	60000	18	5
BZW50-22	BZW50-22B	5000	2750	60000	22	5
BZW50-27	BZW50-27B	5000	2750	60000	27	5
BZW50-56	BZW50-56B	5000	2750	60000	56	5
BZW50-68	BZW50-68B	5000	2750	60000	68	5
BZW50-82	BZW50-82B	5000	2750	60000	82	5
BZW50-100	BZW50-100B	5000	2750	60000	100	5
BZW50-120	BZW50-120B	5000	2750	60000	120	5
BZW50-150	BZW50-150B	5000	2750	60000	150	5
BZW50-180	BZW50-180B	5000	2750	60000	180	5

Application-dedicated protection and IPAD™

REPETITIVE VOLTAGE SURGE SUPPRESSORS

Part number	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} @ 125 °C		Extrapolated [1] clamping voltage (V_{CLO}) @	Dynamic resistance
	min (V)	(mA)	min (V)	(A)	(V)	(Ohm)
STRVS118X02C	95	1	118	2	95	1
STRVS142X02F	114	1	142	2	114	1
STRVS182X02F	143	1	182	2	143	2.5
STRVS185X02B	143	1	185	2	143	3.5
STRVS185X02E	143	1	185	2	143	3.5
STRVS222X02F	171	1	222	2	171	4.5
STRVS225X02E	171	1	225	2	171	5.5
STRVS241X02E	190	1	241	2	190	3.5
STRVS248X02C	190	1	248	2	190	5
STRVS252X02F	190	1	252	2	190	6.5
STRVS280X02F	209	1	280	2	209	8.5

(1) Refer to application note AN4209, «Design methodology for repetitive voltage suppressors (RVS) in repetitive mode: STRVS»

LED BYPASS PROTECTION

Part number	Number of LEDs	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakover voltage (V_{BO}) @	Ho
		(kV)	(V)	max (µA)	max (V)	
LBP01-0803SC5	1	> 8/15	3	0.1	15	
LBP01-0810B	1	> 8/15	3	0.1	15	

AUTOMATION SENSOR TRIPOLAR PROTECTION

Part number Unidirectional	IEC 61000-4-5 R = 500 Ω	Peak pulse current (I_{pp}) 8/20 µs @ 25 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breako (V	
	(kV)	max (A)	(V)	max (µA)	min (V)	typ (V
SPT01-335DEE	1	2	36	1	38	41.4
SPT02-236DDB	1	2	36	1	38	41.4

IPAD™ FOR HDMI PORTS

Part number	General description	Number of lines	Package	Interface type	IEC 61000-4-2 ESD protection
HDMI2C1-5DIJ	Signal conditioning and ESD protection for HDMI control line interfaces	5	DFN-16L	Source	Level 4, 8 kV conta
HDMI2C1-6C1	Signal conditioning and ESD protection for HDMI control line interfaces	6	QFN-18L	Source	Level 4, 8 kV conta
HDMI2C1-14HD	Signal conditioning and ESD protection for HDMI control and TMDS line interfaces	14	µQFN-36L	Source	Level 4, 8 kV conta
HDMI2C2-14HD	Signal conditioning and ESD protection for HDMI control and TMDS line interfaces	14	µQFN-36L	Sink	Level 4, 8 kV conta

Automotive-grade protection devices (AEC-Q101 co

AUTOMOTIVE DATALINE ESD PROTECTION

Unidirectional clamping arrays

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown V_{BR} @
			(kV)	(V)	max (µA)	(V)
ESDALC5-1BT2Y(*)	1	3a, 3b	> 8/15	3	1	5
ESDA5V3LY	2	3a, 3b	> 8/15	3	2	5.3
ESDA5V3SC6Y	4	3a, 3b	> 8/15	3	2	5.3
ESDA6V1LY	2	3a, 3b	> 8/15	5.2	20	6.1
ESDA6V1SC6Y	4	3a, 3b	> 8/15	5.2	20	6.1
ESDA14V2LY	2	1, 2, 3a, 3b	> 8/15	12	5	14.2
ESDA25LY	2	1, 2, 3a, 3b	> 8/15	24	1	25
ESDA14V2SC5Y	4	1, 2, 3a, 3b	> 8/15	12	5	14.2
ESDA25SC6Y	4	1, 2, 3a, 3b	> 8/15	24	1	25

(*) New products, available in Q4-2013

Rail-to-rail protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage (V_{RM})	Leakage curre (I_R) @ 15 V
			(kV)	(V)	max (µA)
DALC208SC6Y	4	3a, 3b	> 8/15	9	1

High-speed interface protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage (V_{BR}) @ I_R		Ca
			(kV)	(V)	max (µA)	min (V)	(mA)	
USBLC6-2SC6Y	2	3a, 3b	> 8/15	5.25	0.15	6	1	
HSP061-2P6Y(*)	2	3a, 3b	> 8/15	5	0.5	6	1	
USBLC6-4SC6Y	4	3a, 3b	> 8/15	5.25	0.15	6	1	
DVIULC6-4SC6Y	4	3a, 3b	> 8/15	5	0.5	6	1	
HDMIULC6-4SC6Y	4	3a, 3b	> 8/15	5	0.5	6	1	
HSP061-4M10Y(*)	4	3a, 3b	> 8/15	5	0.5	6	1	

(*) New products, availlable in Q4-2013

Communication bus protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Peak pulse power 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage (V_{BR}) @ I_R		
			(kV)	(W)	(V)	(µA)	V_{BR} + min (V)	V_{BR} - min (V)	(
LIN bus protection									
ESDLIN1524BJ	1	3a, 3b	> 8/15	160/200	15/- 24	0.5	17.1	25.4	
CAN bus protection									
ESDCAN24-2BLY	1	3a, 3b	> 8/15	230	24	0.1	27	-27	

AUTOMOTIVE POWER-RAIL TVS PROTECTION

Automotive-grade 400 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		B
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min
SM4TY series								
SM4T6V7AY	SM4T6V7CAY	400	270	2300	5	20	50	6.4
SM4T7V6AY	SM4T7V6CAY	400	270	2300	7	20	50	7.2
SM4T10AY	SM4T10CAY	400	270	2300	9	0.2	1	9.4
SM4T12AY	SM4T12CAY	400	270	2300	10	0.2	1	11.
SM4T14AY	SM4T14CAY	400	270	2300	12	0.2	1	13.
SM4T15AY	SM4T15CAY	400	270	2300	13	0.2	1	14.
SM4T18AY	SM4T18CAY	400	270	2300	15	0.2	1	16.
SM4T21AY	SM4T21CAY	400	270	2300	18	0.2	1	20
SM4T23AY	SM4T23CAY	400	270	2300	20	0.2	1	22.
SM4T26AY	SM4T26CAY	400	270	2300	22	0.2	1	24.
SM4T28AY	SM4T28CAY	400	270	2300	24	0.2	1	26.
SM4T30AY	SM4T30CAY	400	270	2300	26	0.2	1	28.
SM4T33AY	SM4T33CAY	400	270	2300	28	0.2	1	31.
SM4T35AY	SM4T35CAY	400	270	2300	30	0.2	1	33.
SM4T39AY	SM4T39CAY	400	270	2300	33	0.2	1	36.
SM4T47AY	SM4T47CAY	400	270	2300	40	0.2	1	44.
SM4T50AY	SM4T50CAY	400	270	2300	43	0.2	1	47.
SM4T56AY	SM4T56CAY	400	270	2300	48	0.2	1	53.
SM4T68AY	SM4T68CAY	400	270	2300	58	0.2	1	64.
SM4T82AY	SM4T82CAY	400	270	2300	70	0.2	1	77.

Automotive-grade 600 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		B
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min
					SMA6TY series			
SMA6T6V7AY	SMA6T6V7CAY	600	300	4000	5	20	50	6.4
SMA6T7V6AY	SMA6T7V6CAY	600	300	4000	7	20	50	7.2
SMA6T10AY	SMA6T10CAY	600	300	4000	9	20	50	9.4
SMA6T12AY	SMA6T12CAY	600	300	4000	10	0.2	1	11.
SMA6T14AY	SMA6T14CAY	600	300	4000	12	0.2	1	13.
SMA6T15AY	SMA6T15CAY	600	300	4000	15	0.2	1	16.
SMA6T18AY	SMA6T18CAY	600	300	4000	18	0.2	1	20
SMA6T22AY	SMA6T22CAY	600	300	4000	19	0.2	1	20.
SMA6T24AY	SMA6T24CAY	600	300	4000	21	0.2	1	22.
SMA6T28AY	SMA6T28CAY	600	300	4000	24	0.2	1	26.
SMA6T30AY	SMA6T30CAY	600	300	4000	26	0.2	1	28.
SMA6T33AY	SMA6T33CAY	600	300	4000	28	0.2	1	31.
SMA6T39AY	SMA6T39CAY	600	300	4000	33	0.2	1	37.
SMA6T47AY	SMA6T47CAY	600	300	4000	40	0.2	1	44.
SMA6T56AY	SMA6T56CAY	600	300	4000	48	0.2	1	53.
SMA6T68AY	SMA6T68CAY	600	300	4000	58	0.2	1	64.
SMA6T82AY	SMA6T82CAY	600	300	4000	70	0.2	1	77.
					SM6TY series			
SM6T6V8AY	SM6T6V8CAY	600	515	4000	6	20	50	6.4
SM6T7V5AY	SM6T7V5CAY	600	515	4000	6	20	50	7.1
SM6T10AY	SM6T10CAY	600	515	4000	9	20	50	9.5

Automotive-grade 600 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		B
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min
SM6T12AY	SM6T12CAY	600	515	4000	10	0.2	1	11.
SM6T15AY	SM6T15CAY	600	515	4000	13	0.2	1	14.
SM6T18AY	SM6T18CAY	600	515	4000	15	0.2	1	17.
SM6T22AY	SM6T22CAY	600	515	4000	19	0.2	1	20.
SM6T24AY	SM6T24CAY	600	515	4000	21	0.2	1	22.
SM6T27AY	SM6T27CAY	600	515	4000	23	0.2	1	25.
SM6T30AY	SM6T30CAY	600	515	4000	26	0.2	1	28.
SM6T33AY	SM6T33CAY	600	515	4000	28	0.2	1	31.
SM6T36AY	SM6T36CAY	600	515	4000	31	0.2	1	34.
SM6T39AY	SM6T39CAY	600	515	4000	33	0.2	1	37.
SM6T42AY	SM6T42CAY	600	515	4000	36	0.2	1	40
SM6T47AY	SM6T47CAY	600	515	4000	40	0.2	1	44.
SM6T56AY	SM6T56CAY	600	515	4000	48	0.2	1	53.
SM6T68AY	SM6T68CAY	600	515	4000	58	0.2	1	64.
SM6T75AY	SM6T75CAY	600	515	4000	64	0.2	1	71.
SM6T82AY	SM6T82CAY	600	515	4000	70	0.2	1	77.

Automotive-grade 1500 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		B
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min
SM15TY series								
SM15T6V8AY	SM15T6V8CAY	1500	1250	10000	5.8	500	2000	6.4
SM15T7V5AY	SM15T7V5CAY	1500	1250	10000	6.4	250	1000	7.1
SM15T10AY	SM15T10CAY	1500	1250	10000	8.55	10	50	9.5
SM15T12AY	SM15T12CAY	1500	1250	10000	10.2	0.2	1	11.
SM15T15AY	SM15T15CAY	1500	1250	10000	12.8	0.2	1	14.
SM15T18AY	SM15T18CAY	1500	1250	10000	15.3	0.2	1	17.
SM15T22AY	SM15T22CAY	1500	1250	10000	18.8	0.2	1	20.
SM15T24AY	SM15T24CAY	1500	1250	10000	20.5	0.2	1	22.
SM15T27AY	SM15T27CAY	1500	1250	10000	23.1	0.2	1	25.
SM15T30AY	SM15T30CAY	1500	1250	10000	25.6	0.2	1	28.
SM15T33AY	SM15T33CAY	1500	1250	10000	28.2	0.2	1	31.
SM15T36AY	SM15T36CAY	1500	1250	10000	30.8	0.2	1	34.
SM15T39AY	SM15T39CAY	1500	1250	10000	33.3	0.2	1	37.
SM15T47AY	SM15T47CAY	1500	1250	10000	40.2	0.2	1	44.
SM15T56AY	SM15T56CAY	1500	1250	10000	48	0.2	1	53.
SM15T68AY	SM15T68CAY	1500	1250	10000	58.1	0.2	1	64.
SM15T75AY	SM15T75CAY	1500	1250	10000	64.1	0.2	1	71.
SM15T82AY	SM15T82CAY	1500	1250	10000	70	0.2	1	77.

Automotive-grade 3000 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		B
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min
SM30TY series								
SM30T18AY	SM30T18CAY	3000	2200	28000	15	0.2	-	16.
SM30T19AY	SM30T19CAY	3000	2200	28000	16	0.2	-	17.
SM30T21AY	SM30T21CAY	3000	2200	28000	18	0.2	-	20
SM30T23AY	SM30T23CAY	3000	2200	28000	20	0.2	-	22.
SM30T26AY	SM30T26CAY	3000	2200	28000	22	0.2	-	24.
SM30T28AY	SM30T28CAY	3000	2200	28000	24	0.2	-	26.
SM30T30AY	SM30T30CAY	3000	2200	28000	26	0.2	-	28.
SM30T33AY	SM30T33CAY	3000	2200	28000	28	0.2	-	31.
SM30T35AY	SM30T35CAY	3000	2200	28000	30	0.2	-	33.
SM30T39AY	SM30T39CAY	3000	2200	28000	33	0.2	-	36.

Lightning surge protection: ITU-T Kseries/Telcordia GI

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Bre vo
	(A)	(A)	(A)	(V)	(µA)	m
30 A surge suppressors for telecom intrabuilding and termi						
SMP30-62	30	40	100	62	5	
SMP30-68	30	40	100	68	5	
SMP30-100	30	40	100	100	5	
SMP30-120	30	40	100	120	5	
SMP30-130	30	40	100	130	5	
SMP30-180	30	40	100	180	5	
SMP30-200	30	40	100	200	5	
SMP30-240	30	40	100	240	5	
SMP30-270	30	40	100	270	5	
50 A surge suppressors for telecom terminals						
SMP50-62	50	65	100	62	5	
SMP50-68	50	65	100	68	5	
SMP50-100	50	65	100	100	5	
SMP50-120	50	65	100	120	5	
SMP50-130	50	65	100	130	5	
SMP50-180	50	65	100	180	5	
SMP50-200	50	65	100	200	5	
SMP50-220	50	65	100	220	5	
SMP50-240	50	100	65	240	5	

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Bre vo
	(A)	(A)	(A)	(V)	(µA)	m
SMP50-270	50	100	65	270	5	
SMP50-320	50	100	65	320	5	
SMTPA68	50	65	100	68	5	
SMTPA100	50	65	100	100	5	
SMTPA120	50	65	100	120	5	
SMTPA130	50	65	100	130	5	
SMTPA180	50	65	100	180	5	
SMTPA200	50	65	100	200	5	
SMTPA220	50	65	100	220	5	
SMTPA270	50	65	100	270	5	
SMTPA320	50	65	100	320	5	
TPA62	50	65	100	62	5	
TPA100	50	65	100	100	5	
TPA120	50	65	100	120	5	
TPA130	50	65	100	130	5	
TPA180	50	65	100	180	5	
TPA200	50	65	100	200	5	
TPA220	50	65	100	220	5	
TPA240	50	65	100	240	5	
TPA270	50	65	100	270	5	

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Bre vo
	(A)	(A)	(A)	(V)	(µA)	m
75 A surge suppressors for telecom datalines						
SMP75-8	75	120	250	8	5	
80 A surge suppressors for telecom terminals						
SMP80MC-120	80	120	250	120	5	
SMP80MC-140	80	120	250	140	5	
SMP80MC-160	80	120	250	160	5	
SMP80MC-200	80	120	250	200	5	
SMP80MC-230	80	120	250	230	5	
SMP80MC-270	80	120	250	270	5	
SMP80MC-320	80	120	250	320	5	
100 A surge suppressors for telecom equipments						
SMP100MC-140	100	150	500	140	5	
SMP100MC-160	100	150	500	160	5	
SMP100MC-200	100	150	500	200	5	
SMP100MC-230	100	150	500	230	5	
SMP100MC-270	100	150	500	270	5	
SMP100MC-320	100	150	500	320	5	
SMP100MC-360	100	150	500	360	5	
SMP100MC-400	100	150	500	400	5	
SMP100LC-8	100	150	500	8	5	
SMP100LC-25	100	150	500	25	5	
SMP100LC-35	100	150	500	35	5	

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Bre vo
	(A)	(A)	(A)	(V)	(µA)	m
SMP100LC-65	100	150	500	65	5	
SMP100LC-90	100	150	500	90	5	
SMP100LC-120	100	150	500	120	5	
SMP100LC-140	100	150	500	140	5	
SMP100LC-160	100	150	500	160	5	
SMP100LC-200	100	150	500	200	5	
SMP100LC-230	100	150	500	230	5	
SMP100LC-270	100	150	500	270	5	
SMP0720SCMC (*)	100	150	500	65	5	
SMP0900SCMC (*)	100	150	500	75	5	
SMP1100SCMC (*)	100	150	500	90	5	
SMP1300SCMC (*)	100	150	500	120	5	
SMP1500SCMC (*)	100	150	500	140	5	
SMP1800SCMC (*)	100	150	500	170	5	
SMP2100SCMC (*)	100	150	500	180	5	
SMP2300SCMC (*)	100	150	500	190	5	
SMP2600SCMC (*)	100	150	500	220	5	
SMP3100SCMC (*)	100	150	500	275	5	
SMP100LC-320	100	150	500	320	5	
SMP100LC-360	100	150	500	360	5	
SMP100LC-400	100	150	500	400	5	

(*) New Trisils™

Crowbar ICs

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Stand-off voltage (V_{RM})	Leakage current I_{RM} @ V_{RM}	Continuous reverse voltage V_R @ I_R		Br v
		(A)	(A)	(V)	max (µA)	(V)	(µA)	n
Fixed voltage protection for telecom relays								
THBT15011DRL	2	30	37.5	135	5	150	50	
THBT20011D	2	30	37.5	180	5	200	50	
TLP200G-1	2	100	150	180	5	200	50	

XDSL LINE PROTECTION ICS

Secondary protection for DSL lines

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089 (1)	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21 (1)	Peak pulse current (I_{PP}) 2/10 µs GR1089 (1)	Stand-off voltage (V_{RM})	Leakage current I_{RM} @ V_{RM}	Breakdown voltag V_{BR} @ I_{BR}	
		(A)	(A)	(A)	(V)	max (µA)	min (V)	(mA)
DSL01-008SC5	2	100	150	500	8	0.5	9.5	1
DSL01-010SC5	2	100	150	500	10.5	0.5	11	1
DSL01-016SC5	2	100	150	500	16	0.5	18	1
DSL01-024SC5	2	100	150	500	24	0.5	28	1
DSL02-005SC5	2	100	150	500	5	0.5	6	1
DSL02-008SC5	2	100	150	500	8	0.5	10	1
DSL02-010SC5	2	100	150	500	10	0.5	10.5	1
DSL03-010SC6	2	100	150	500	10	0.2	10.5	1
DSL03-024SC6	2	100	150	500	24	0.2	28	1
DSL03-022SC6	2	100	150	500	24	0.2	28	1
DSL04-005SC6	2	100	150	500	5	0.2	6.5	1
DSL04-008SC6	2	100	150	500	8	0.2	10	1
DSL04-012SC6	2	100	150	500	12	0.2	14	1
DSL04-022SC6	2	100	150	500	22	0.2	25	1
DSL04-024SC6	2	100	150	500	24	0.2	28	1

(1) Applicable with line transformer and capacitance

OTHER TELECOM LINE PROTECTION ICS

Protection for ISDN, S and U interfaces

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Breakdown volt V_{BR} @ I_{BR}	
		(A)	(A)	(A)	(V)	min (V)	(
TPI8011N	2	30	40	90	70	80	
TPI12011N	2	30	40	90	105	120	

Protection for T1/E1 interfaces

Part number	Number of lines	Peak pulse current (I_{PP}) 8/20 µs IEC 61000-4-5	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	
		(A)	(A)	(A)	(V)	max (µA)	(V)
TPN3021	2	100	50	200	28	4	28

Overvoltage and overcurrent protection for telecom lines

Part number	Number of lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Leakage curre (I_{RM}) @ V_{RM}	
		(A)	(A)	(A)	(V)	max (µA)	(
TPP25011RL	2	30	40	75	60	6	6

SLIC PROTECTION ICS

Programmable voltage protection for SLICs

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Gate line voltage (V_{MGL})	Leakage current I_{RM} @ V_{RM}	Pea forw voltage GND 10/70
		(A)	(A)	(A)	max (V)	max (µA)	max
LCDP1521SRL	4	2 x 25	2 x 40	2 x 90	175	5	8
LCP1531RL	2	-	37.5	-	150	5	5
LCP1521SRL	2	30	40	150	150	5	5
LCP02-150B1RL	2	30	45	100	-120/+120	5	-
LCP03	2	30	60	130	-53/83	5	-
LCP12-150B1RL	2	45	75	150	-120/+120	5	-

Programmable current and voltage protection for line cards

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Line to GND operating voltage V_{LG}	Line to G current
		(A)	(A)	(A)	(V)	ma
CLP30-200B1RL	2	30	40	100	200	10

ETHERNET LINE PROTECTION ICS

Part number	Number of lines	Peak pulse current (I_{PP}) 8/20 µs IEC 61000-4-5	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Leakage curre (I_{RM}) @ V_{RM}	
		(A)	(A)	(A)	(V)	max (µA)	(
ETP01-1621RL	2	48	37.5	100	16	1	1
ETP01-2821RL	2	48	37.5	100	28	1	2

Current-limiting termination

Part number	Number of channels	Digital input type	Supply voltage (V_{CC})	Input voltage V_I	Input limiting current I_{LIM}	Off state outp (I_{OFF})/off stat voltage
			(V)	(V)	min/max (mA)	(mA/
CLT3-4BT6	4	1 and 3	19 to 35	-30 to +35	2.1/3.7	1.5/
PCLT-2AT4	2	1, 2, 3	19 to 35	-30 to 35	6.1/8.8 for type 2 2.8/4.3 for type 1	2/5
SCLT3-8BT8	8	1, 2, 3	15 to 35	-30 to +35	2.1/2.6	1.5/
CLT01-38S4	8	1, 2, 3	-0.3 to +35 V	-30 to +35	2.1/2.6	1.5/

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