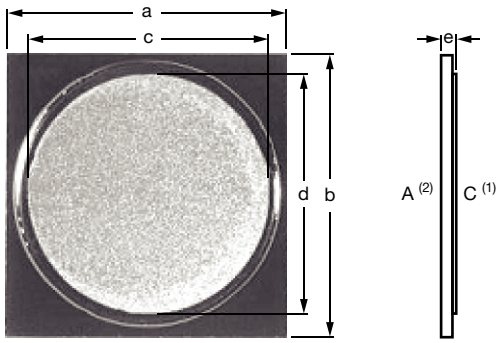
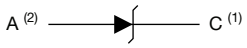
PAR® Transient Voltage Suppressor
Bare Die (70 mils x 70 mils)



FEATURES

- Junction passivation optimized design passivated anisotropic rectifier technology
- 600 W peak pulse power capability with a 10/1000 µs waveform in equivalent package
- Unidirectional polarity only

CIRCUIT DIAGRAM



Notes

(1) Front metallization side: Cathode

(2) Back metallization side: Anode

MECHANICAL DATA

DEVICE (1)	ASSEMBLY	DIMENSIONS in inches (millimeters)						TYPICAL TOTAL METAL THICKNESS			
		CHIP SIZE		SOLDERABLE		CHIP THICKNESS		FRONT SIDE C		BACK SIDE A	
		a, b		c, d		e		METAL	THICKNESS	METAL	THICKNESS
		min.	max.	min.	max.	min.	max.				
TV070B...S4PT	Solderable	0.068 (1.727)	0.070 (1.778)	0.058 (1.473)	0.060 (1.524)	0.011 (0.279)	0.013 (0.330)	Ni/Au	0.75 µm	Ni/Au	0.75 µm

Note

(1) Refer to Device Code definition

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

DEVICE	BREAKDOWN VOLTAGE V_{BR} (1) AT I_T (V)		TEST CURRENT I_T (mA)	STAND-OFF VOLTAGE V_{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D (µA)	FINISH GOOD (for reference not guarantee for bare die)			
						MAXIMUM CLAMPING VOLTAGE (2) V_C AT I_{PPM}		OPERATING JUNCTION TEMPERATURE RANGE	PACKAGE EQUIVALENT PRODUCT (3)
	MIN.	MAX.				(V)	(A)		
TV070B6P8S4PT	6.45	7.14	10	5.80	500	10.5	57.1	- 65 °C to + 185 °C	TPSMB6.8A
TV070B7P5S4PT	7.13	7.88	10	6.40	250	11.3	53.1	- 65 °C to + 185 °C	TPSMB7.5A
TV070B8P2S4PT	7.79	8.61	10	7.02	100	12.1	49.6	- 65 °C to + 185 °C	TPSMB8.2A
TV070B9P1S4PT	8.65	9.55	1	7.78	25	13.4	44.8	- 65 °C to + 185 °C	TPSMB9.1A
TV070B010S4PT	9.5	10.5	1	8.55	5	14.5	41.4	- 65 °C to + 185 °C	TPSMB10A
TV070B011S4PT	10.5	11.6	1	9.4	2	15.6	38.5	- 65 °C to + 185 °C	TPSMB11A
TV070B012S4PT	11.4	12.6	1	10.2	2	16.7	35.9	- 65 °C to + 185 °C	TPSMB12A
TV070B013S4PT	12.4	13.7	1	11.1	2	18.2	33.0	- 65 °C to + 185 °C	TPSMB13A
TV070B015S4PT	14.3	15.8	1	12.8	1	21.2	28.3	- 65 °C to + 185 °C	TPSMB15A
TV070B016S4PT	15.2	16.8	1	13.6	1	22.5	26.7	- 65 °C to + 185 °C	TPSMB16A
TV070B018S4PT	17.1	18.9	1	15.3	1	25.5	23.8	- 65 °C to + 185 °C	TPSMB18A
TV070B020S4PT	19.0	21.0	1	17.1	1	27.7	21.7	- 65 °C to + 185 °C	TPSMB20A
TV070B022S4PT	20.9	23.1	1	18.8	1	30.6	19.6	- 65 °C to + 185 °C	TPSMB22A
TV070B024S4PT	22.8	25.2	1	20.5	1	33.2	18.1	- 65 °C to + 185 °C	TPSMB24A
TV070B027S4PT	25.7	28.4	1	23.1	1	37.5	16.0	- 65 °C to + 185 °C	TPSMB27A
TV070B030S4PT	28.5	31.5	1	25.6	1	41.4	14.5	- 65 °C to + 185 °C	TPSMB30A
TV070B033S4PT	31.4	34.7	1	28.2	1	45.7	13.1	- 65 °C to + 185 °C	TPSMB33A
TV070B036S4PT	34.2	37.8	1	30.8	1	49.9	12.0	- 65 °C to + 185 °C	TPSMB36A
TV070B039S4PT	37.1	41.0	1	33.3	1	53.9	11.1	- 65 °C to + 185 °C	TPSMB39A
TV070B043S4PT	40.9	45.2	1	36.8	1	59.3	10.1	- 65 °C to + 185 °C	TPSMB43A

Notes

(1) Pulse test: $t_p \leq 50$ ms

(2) Non-repetitive current pulse, per fig. 1

(3) Package equivalent product quality level information will provide per customer request but only for reference no guarantee bare die can meet the same

PACKAGING			
DEVICE	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY
TV070B...S4PT	T	12 mm tape/4 mm pitch, 7" diameter plastic tape and reel	6000

CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

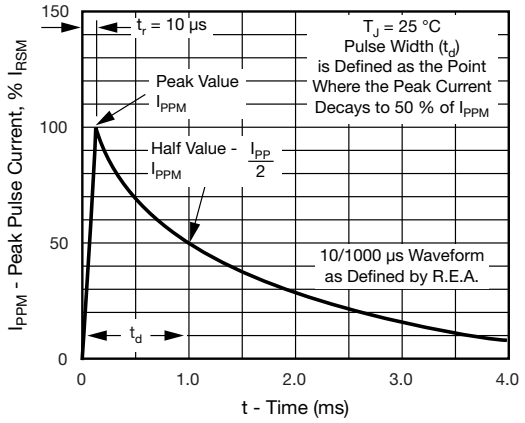


Fig. 1 - Pulse Waveform

DEVICE CODE

TV	070	B	6P8	S	4	P	T
1	2	3	4	5	6	7	8

1 - Transient Voltage Suppressor

2 - Die dimensions in mils

3 - Patented PAR TVS — B = Named as breakdown voltage (V_{BR}); T = Named as stand-off voltage (V_{WM}); L = Load dump rectifier

4 - Breakdown voltage (V_{BR})

5 - Chip surface metallization (see Mechanical Data table) — A = Bondable; S = Solderable

6 - Wafer diameter in inches — 4 = 4" wafer; 6 = 6" wafer

7 - Quality level code — P = Packaged die, high reliability grade (1); O = Packaged die, commercial grade (1); N = Non packaged die (2)

8 - Packaging (see Packaging table)

Notes

(1) Packaged die
- Existing die in qualified package

(2) Non packaged die
- Existing fab. process
- Non standard die metal
- Die metal has been qualified
- No production in packaged form

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