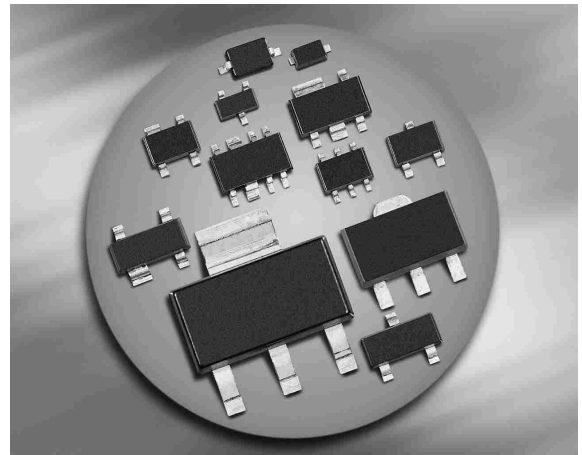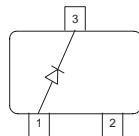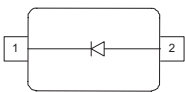**Silicon PIN Diode**

- Current-controlled RF resistor
  for switching and attenuating applications

- Frequency range 1 MHz ... 2 GHz

- Especially useful as antenna switch
  in TV-sat tuners

- Very low harmonics

- Pb-free (RoHS compliant) package

- Qualified according AEC Q101

AEC Qualified

RoHS

BA595   **BA885**
BA895
BA895-02V

Type	Package	Configuration	L_S(nH)	Marking
BA595	SOD323	single	1.8	white R
BA885	SOT23	single	1.8	PA
BA895*	SCD80	single	0.6	RA
BA895-02V	SC79	single	0.6	1

* Not for new design

Maximum Ratings at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	50	V
Forward current	I_F	50	mA
Junction temperature	T_J	150	°C
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{Stg}	-55 ... 150	

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Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)	R_{thJS}		K/W
BA595, BA885		≤ 370	
BA895, -02V		≤ 95	

[1]For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

Electrical Characteristics at T_A = 25 °C, unless otherwise specified

| Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 30 V	I_R	-	-	20	nA
Forward voltage I_F = 50 mA	V_F	-	-	1.1	V
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 0 V, f = 100 MHz		-	0.26	0.4	
V_R = 10 V, f = 1 MHz		-	0.22	0.6	
Reverse parallel resistance	R_P				kΩ
V_R = 1 V, f = 100 MHz		-	50	-	
V_R = 0 V, f = 1 GHz		-	10	-	
Forward resistance	r_f				Ω
I_F = 1.5 mA, f = 100 MHz		-	22	40	
I_F = 10 mA, f = 100 MHz		-	4.5	7	
Charge carrier life time I_F = 10 mA, I_R = 6 mA, measured at I_R = 3 mA , R_L = 100 Ω	τ_{rr}	-	1600	-	ns
I-region width	W_I	-	130	-	µm

2014-02-11

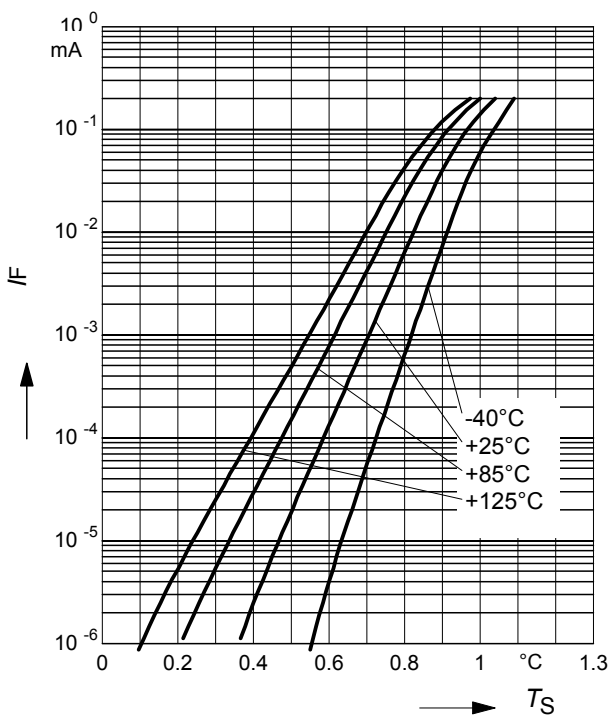**Diode capacitance** $C_T = f (V_R)$

f = Parameter
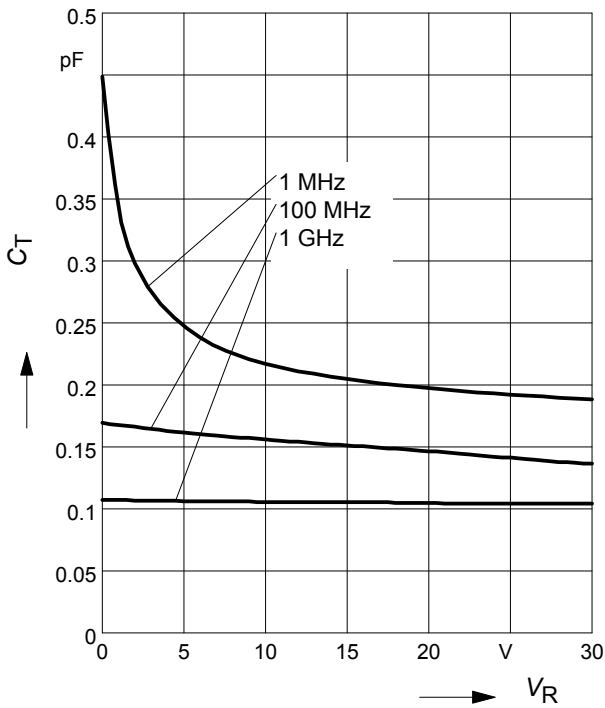
Forward resistance $r_f = f (I_F)$

f = Parameter
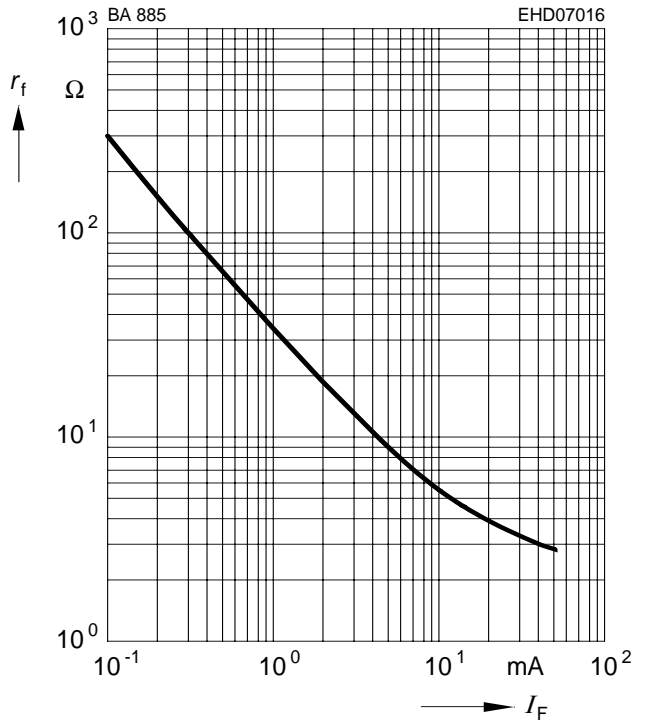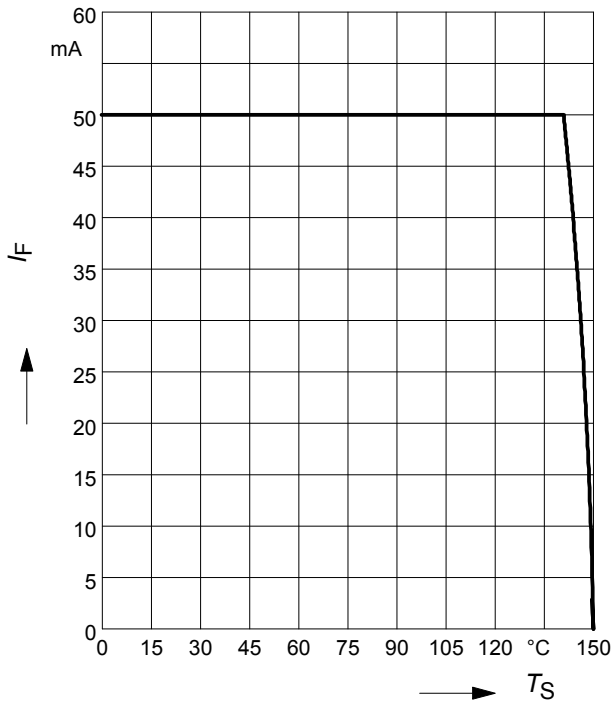

Forward current $I_F = f (V_F)$

T_A = Parameter

Forward current $I_F = f (T_S)$
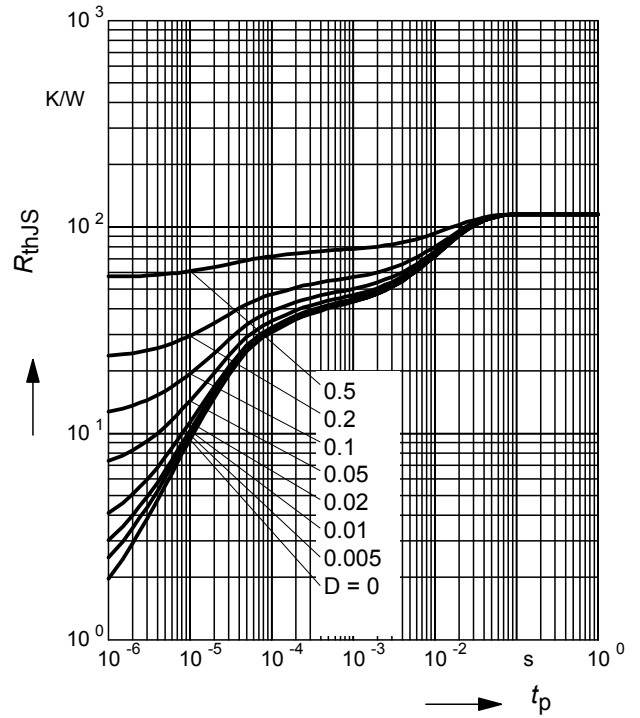
BA595

3

2014-02-11
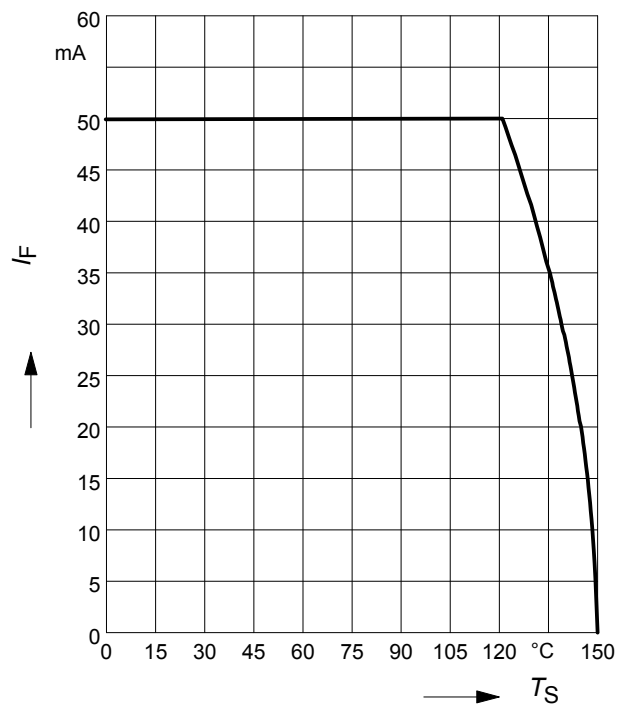
Forward current $I_F = f(T_S)$

BA895, -02V

Permissible Puls Load $R_{thJS} = f(t_p)$

BA595
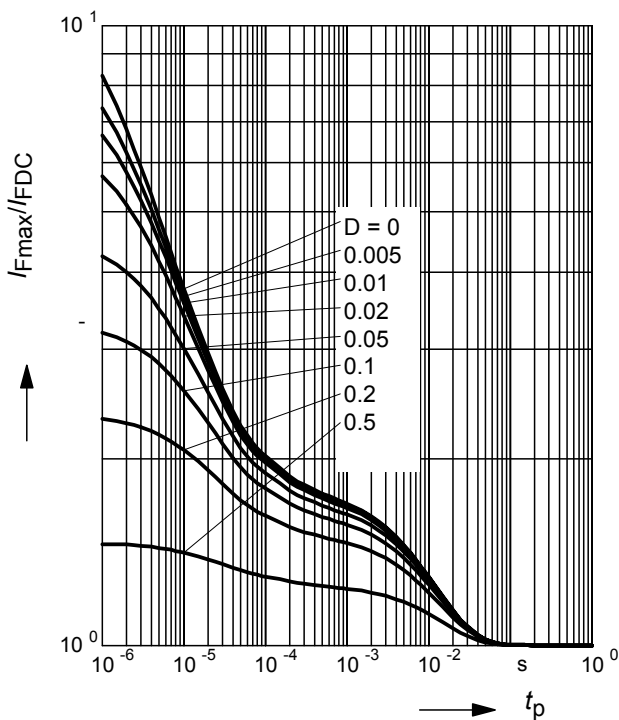

Permissible Pulse Load
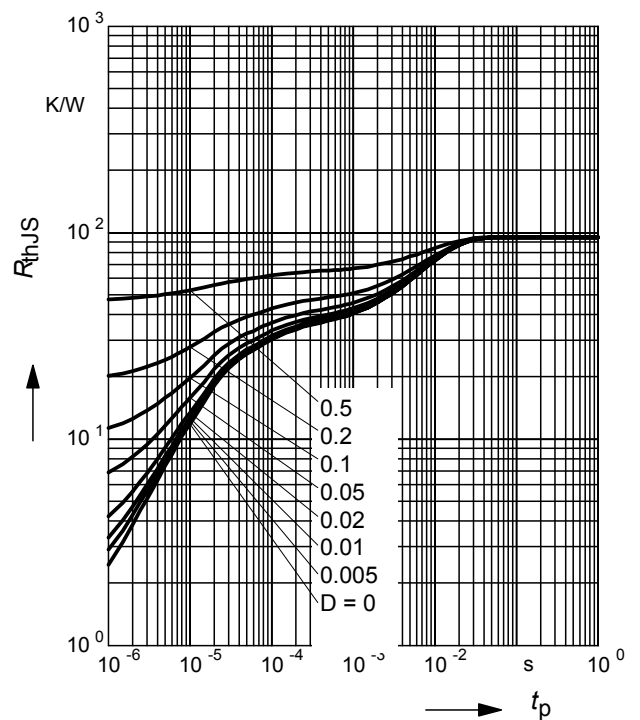
$I_{Fmax}/I_{FDC} = f(t_p)$
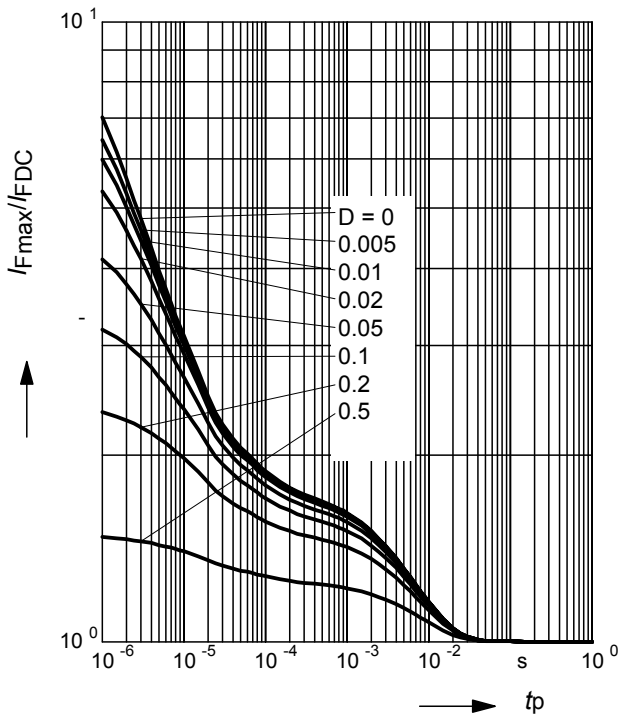
BA595

Permissible Puls Load $R_{thJS} = f(t_p)$

BA895, -02V

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Permissible Pulse Load

$I_{Fmax}/ I_{FDC} = f(t_p)$

BA895, -02V

2014-02-11

Package Outline

Foot Print

Marking Layout (Example)

2005, June
Date code

GF

BAR63-02V
Type code

Cathode marking
Laser marking

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
Reel ø330 mm = 10.000 Pieces/Reel

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Package Outline

Cathode marking

0.8 ±0.1

0.3 ±0.05

0.2 Ⓜ A

0.13 +0.05 -0.03

A

1.7 ±0.1

10°MAX.

7° ±1.5°

1.3 ±0.1

0.7 ±0.1

0.2 ±0.05

Foot Print

1.45

0.35

0.35

Marking Layout (Example)

GGF

2005, June
Date code

BAR63-02W
Type code

Cathode marking
Laser marking

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
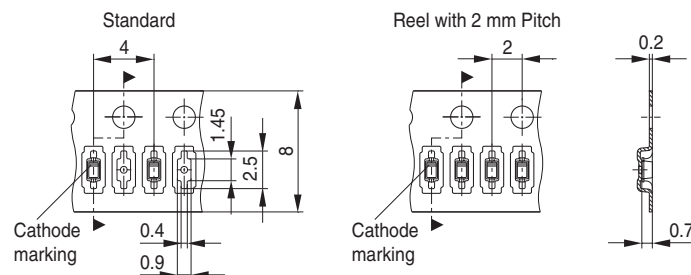Reel ø330 mm = 10.000 Pieces/Reel

Standard

4

1.45

2.5

8

Cathode marking

0.4

0.9

Reel with 2 mm Pitch

2

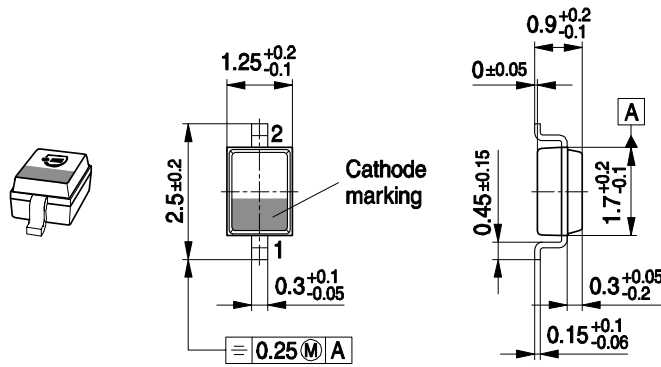Cathode marking

0.2

0.7

7

2014-02-11

Date Code marking for discrete packages with one digit (SCD80, SC79, SC75[1]) CES-Code

Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	j	y	J	Y
10	k	z	K	Z	k	z	K	Z	k	z	K	Z
11	l	2	L	4	l	2	L	4	l	2	L	4
12	n	3	N	5	n	3	N	5	n	3	N	5

1) New Marking Layout for SC75, implemented at October 2005.

2014-02-11

Package Outline

Cathode marking

Foot Print

Marking Layout (Example)
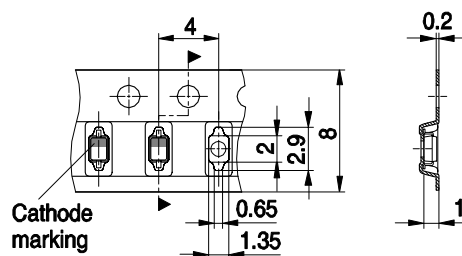

BAR63-03W
Type code

Cathode marking
Color ink or laser marking

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

Cathode marking

2014-02-11

Package Outline

2.9 ±0.1 B

3

0.4 $^{+0.1}_{-0.05}$ $^{1)}$

⊕ 0.25 Ⓜ B C

1   2

0.95

1.9

C

1 ±0.1

0.15 MIN.

0.1 MAX.

2.4 ±0.15

1.3 ±0.1

= 0.2 Ⓜ A

0.08...0.15

0...8°

A
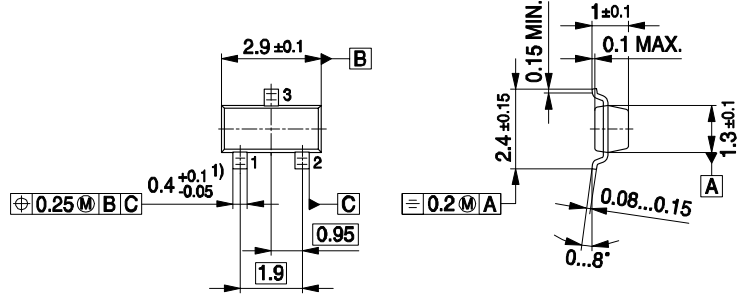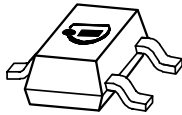
1) Lead width can be 0.6 max. in dambar area

SOT23-PO V08

Foot Print

0.8

0.9

1.3

0.8   1.2

0.9
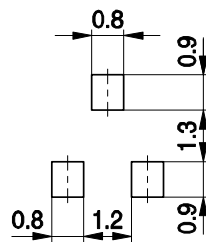
SOT23-FPR V08

Marking Layout

Type code —— EU S 36 —— 2013, June Date code

Pin 1

(infineon) Manufacturer
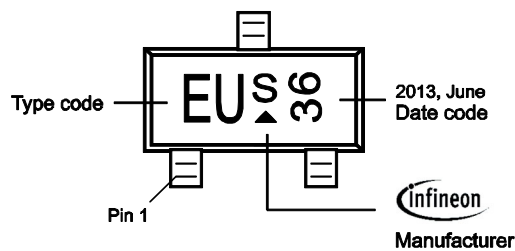
Standard Packing

Reel o 180 mm: 3.000 Pieces / Reel
Reel o 330 mm = 10.000 Pieces / Reel

4

0.9

0.2

2.13

2.65

8

Pin 1

3.15

1.15

SOT23-TP V02

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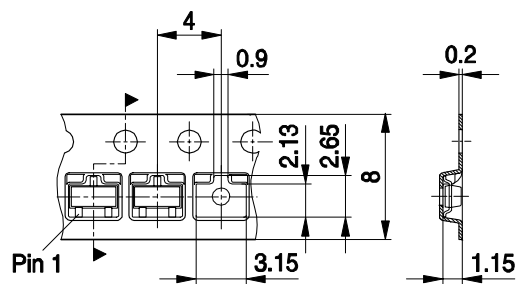
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