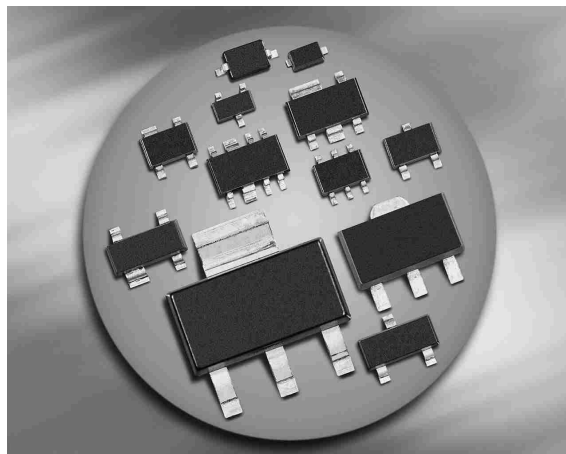
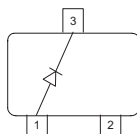
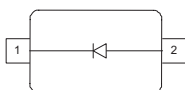


Silicon PIN Diode

- 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


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 $T_A = 25\text{ °C}$, 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	

Thermal Resistance

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

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

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

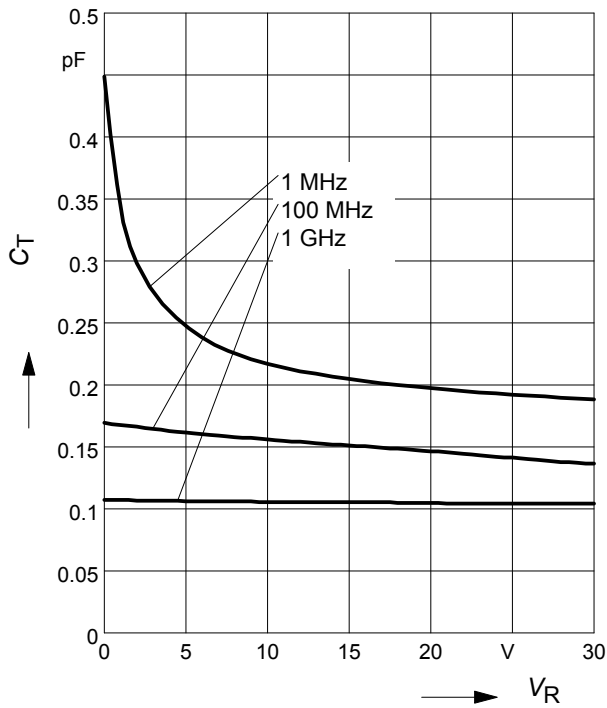
Reverse current $V_R = 30\text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 50\text{ mA}$	V_F	-	-	1.1	V

AC Characteristics

Diode capacitance $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 10\text{ V}, f = 1\text{ MHz}$	C_T	- -	0.26 0.22	0.4 0.6	pF
Reverse parallel resistance $V_R = 1\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$	R_P	- -	50 10	- -	k Ω
Forward resistance $I_F = 1.5\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	r_f	- -	22 4.5	40 7	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\text{ }\Omega$	τ_{rr}	-	1600	-	ns
I-region width	W_I	-	130	-	μm

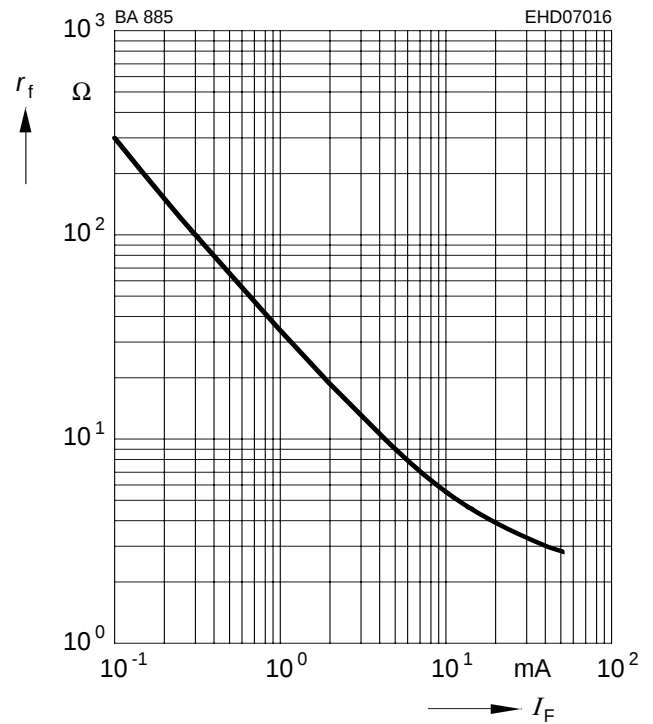
Diode capacitance $C_T = f(V_R)$

f = Parameter



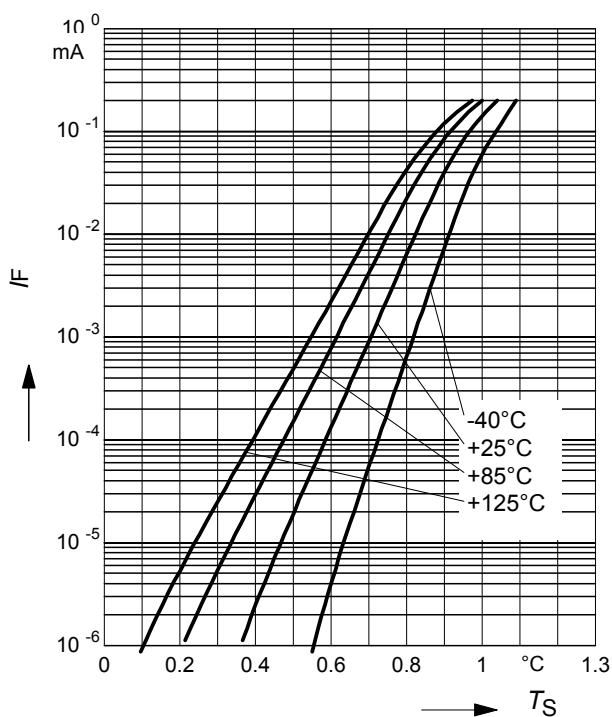
Forward resistance $r_f = f(I_F)$

f = Parameter



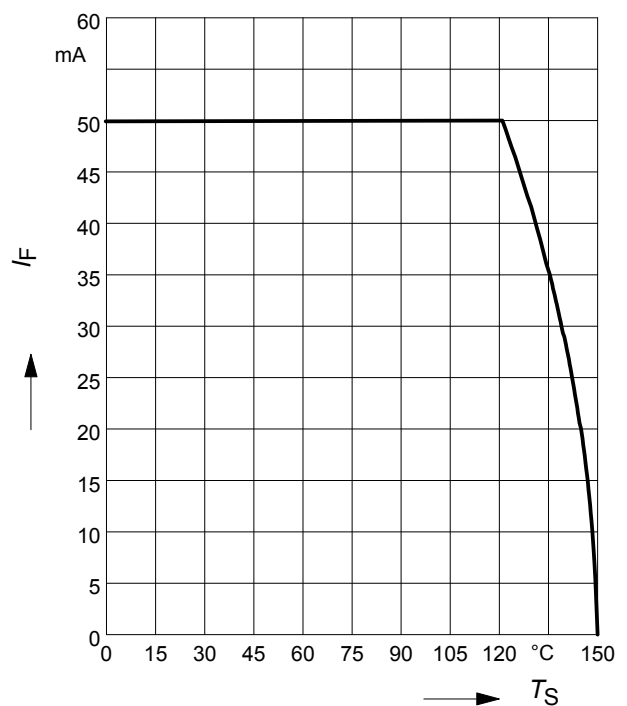
Forward current $I_F = f(V_F)$

T_A = Parameter



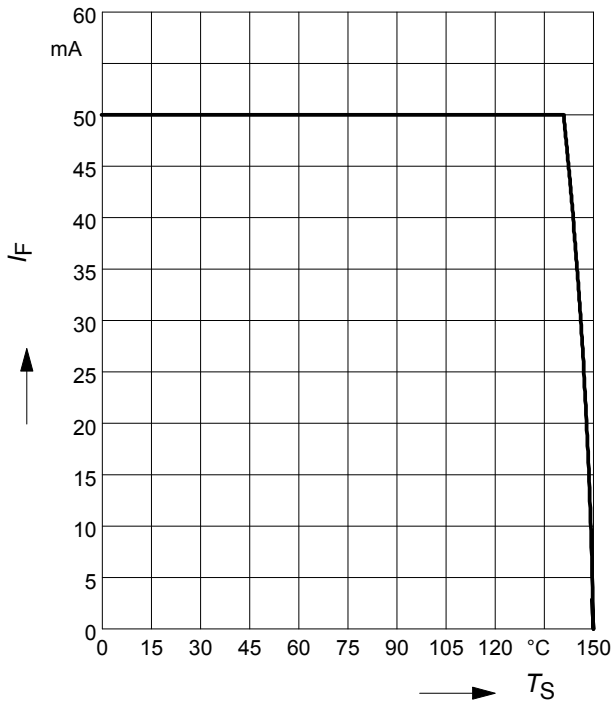
Forward current $I_F = f(T_S)$

BA595



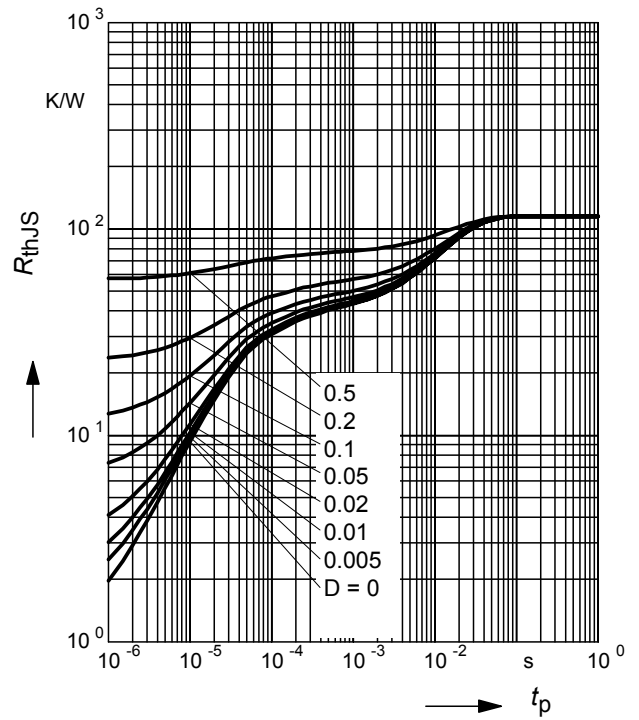
Forward current $I_F = f(T_S)$

BA895, -02V



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

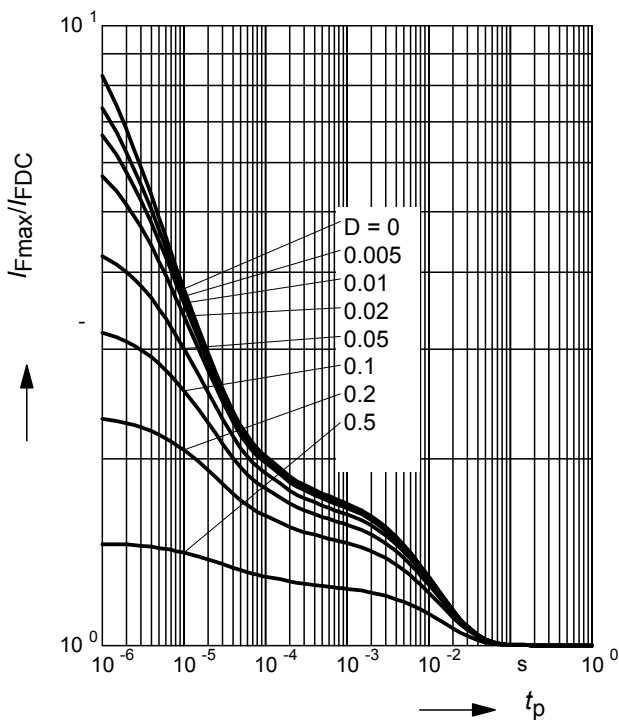
BA595



Permissible Pulse Load

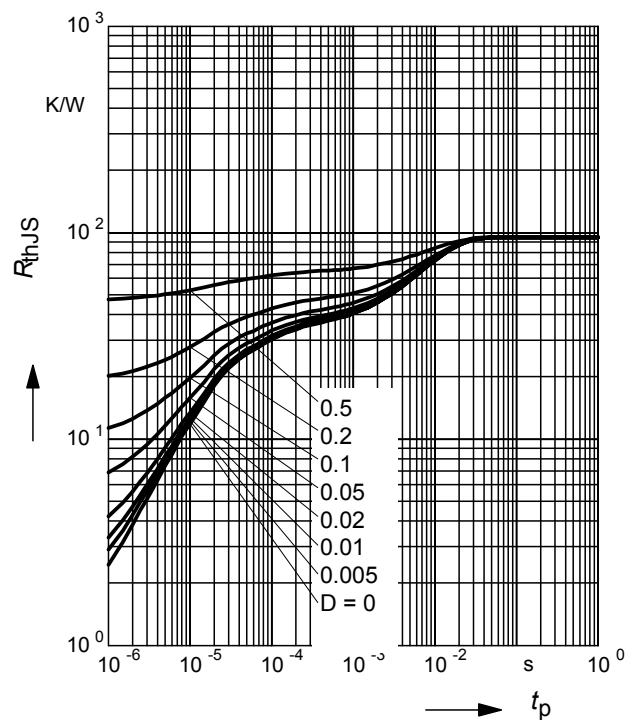
$I_{Fmax}/I_{FDC} = f(t_p)$

BA595



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

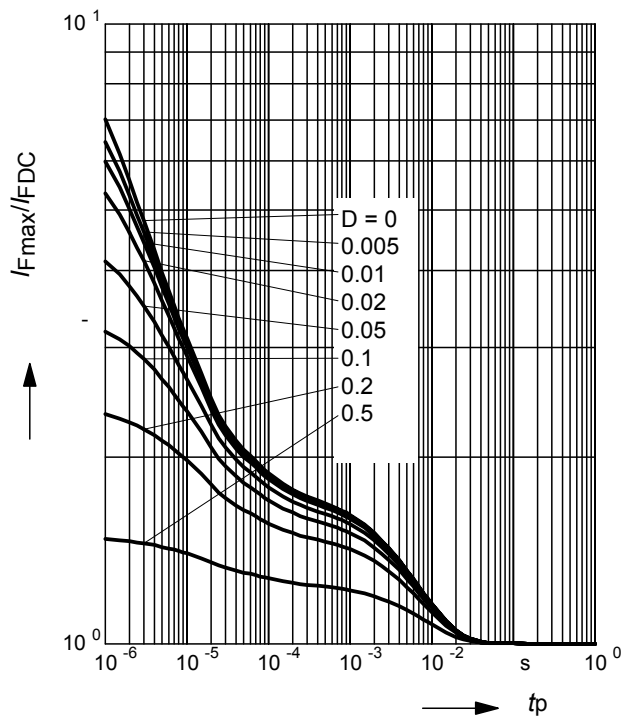
BA895, -02V



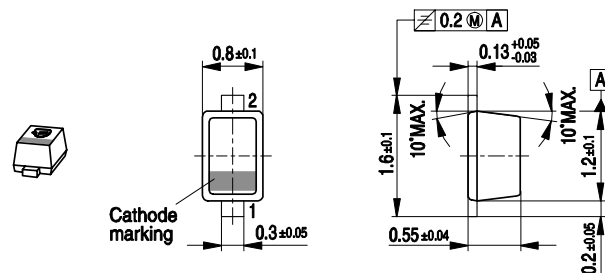
Permissible Pulse Load

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

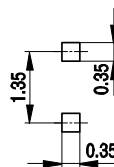
BA895, -02V



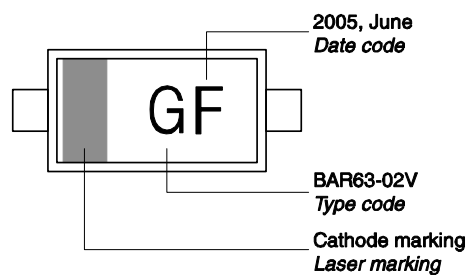
Package Outline



Foot Print

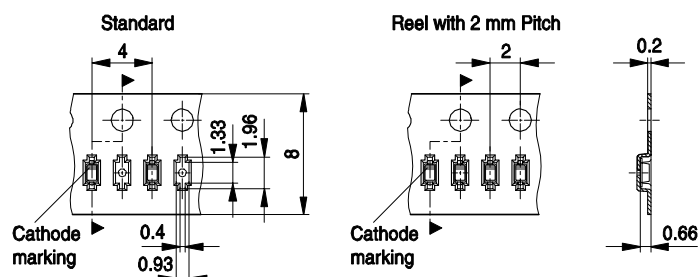


Marking Layout (Example)

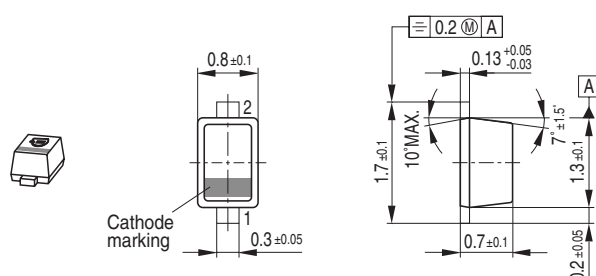


Standard Packing

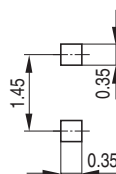
Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 180 \text{ mm}$ = 8.000 Pieces/Reel (2 mm Pitch)
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel



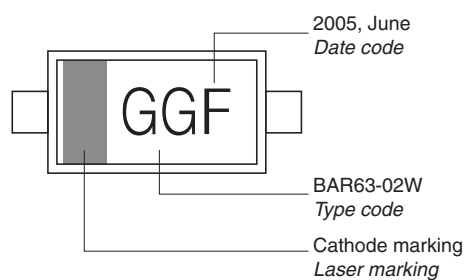
Package Outline



Foot Print

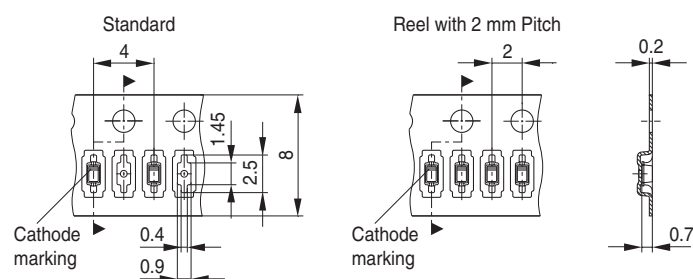


Marking Layout (Example)



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

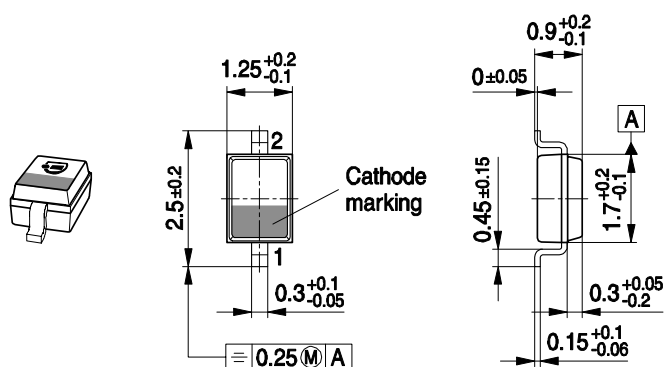


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

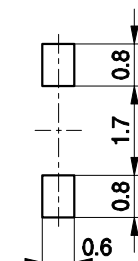
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	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.

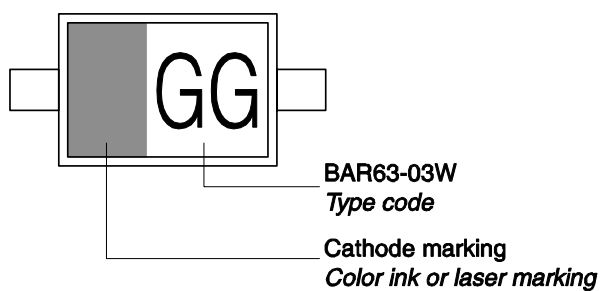
Package Outline



Foot Print

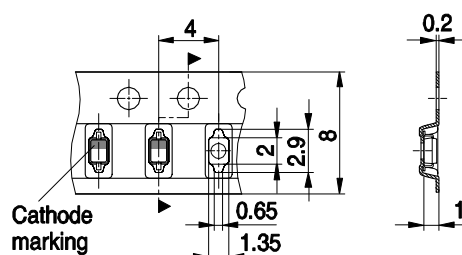


Marking Layout (Example)

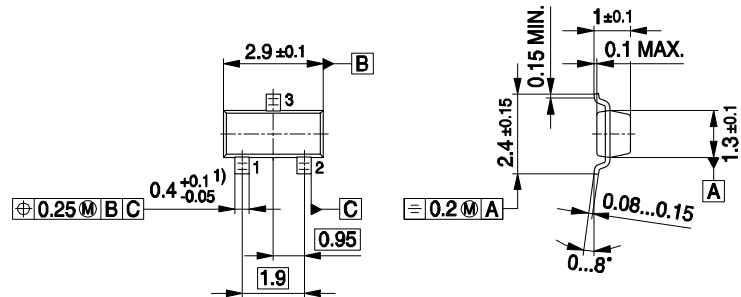
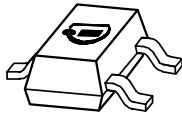


Standard Packing

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



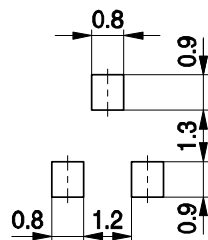
Package Outline



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

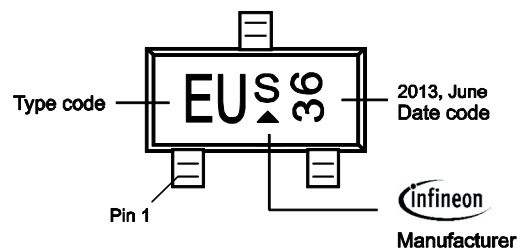
SOT23-PO V08

Foot Print



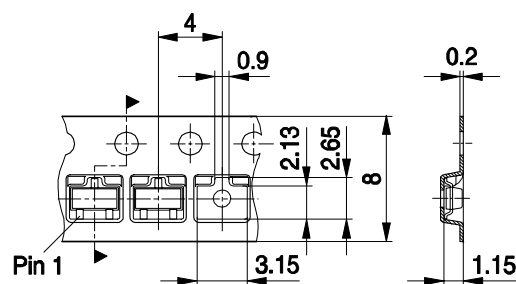
SOT23-FPR V08

Marking Layout



Standard Packing

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



SOT23-TP V02

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