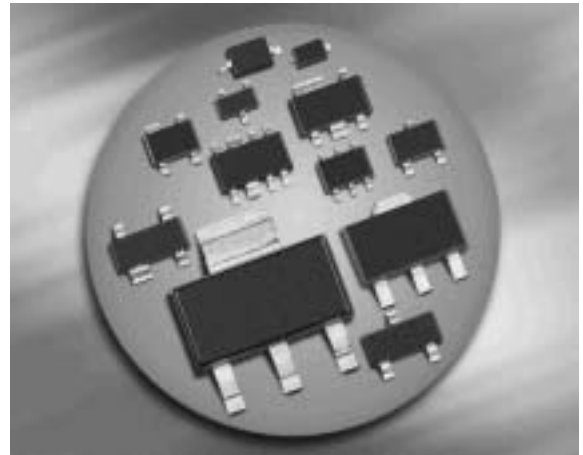
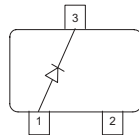
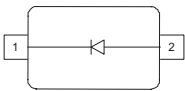


Silicon PIN Diode

- 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


BA595
BA895
BA885


Type	Package	Configuration	L_S (nH)	Marking
BA595	SOD323	single	1.8	white R
BA885	SOT23	single	1.8	PA
BA895	SCD80	single	0.8	RA

Maximum Ratings at $T_A = 25^\circ\text{C}$, 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	R_{thJS}	≤ 370	K/W
BA895		≤ 95	

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

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

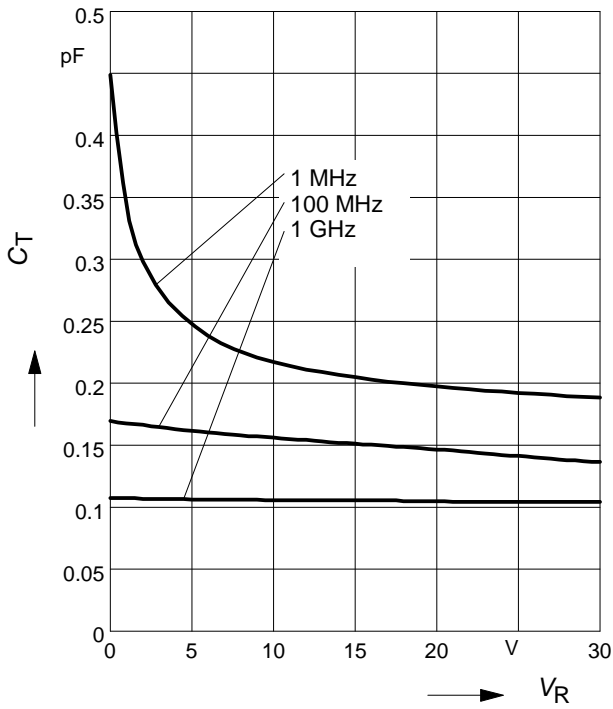
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 30\text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 50\text{ mA}$	V_F	-	-	1.1	V

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

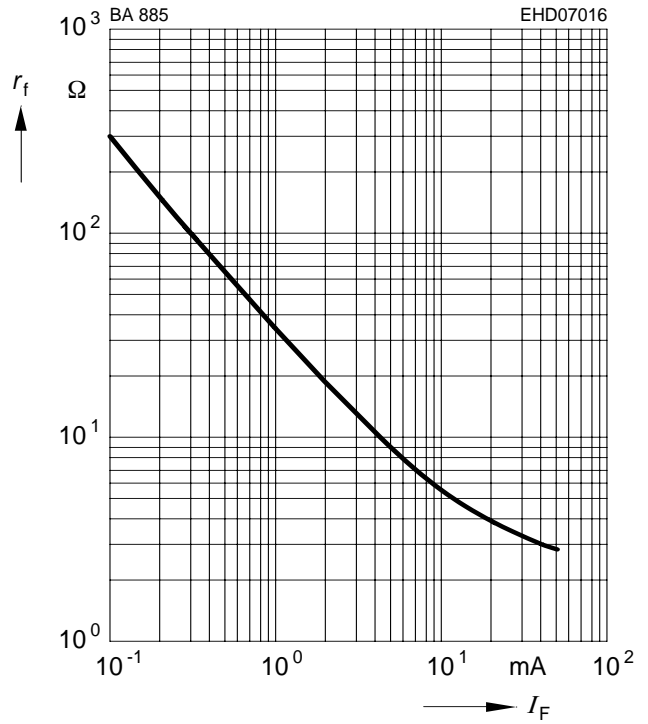
Diode capacitance $C_T = f(V_R)$

$f =$ Parameter



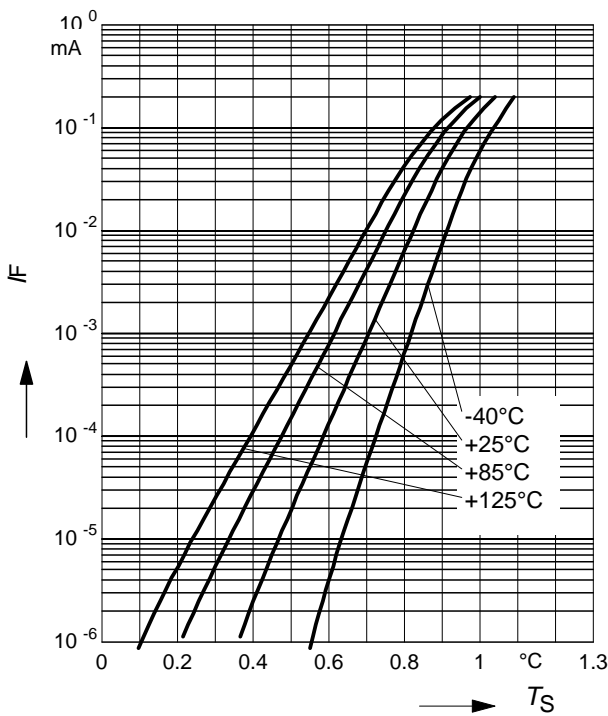
Forward resistance $r_f = f(I_F)$

$f =$ Parameter



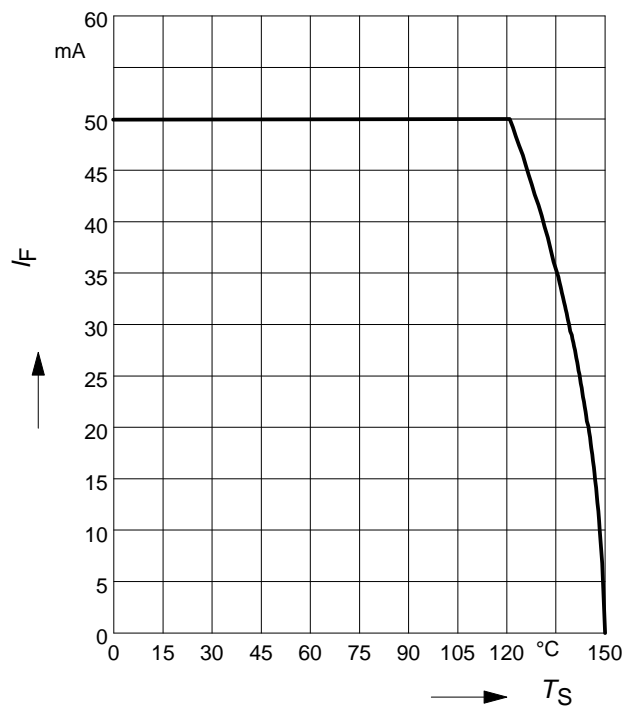
Forward current $I_F = f(V_F)$

$T_A =$ Parameter



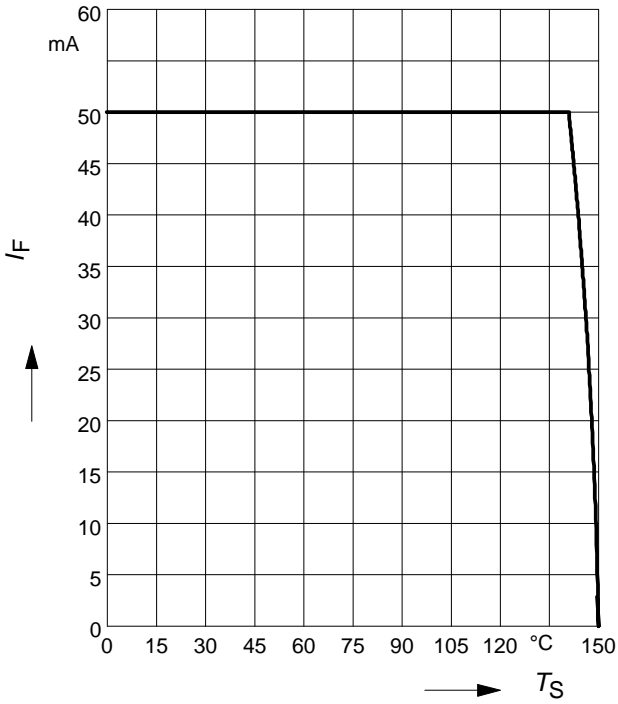
Forward current $I_F = f(T_S)$

BA595



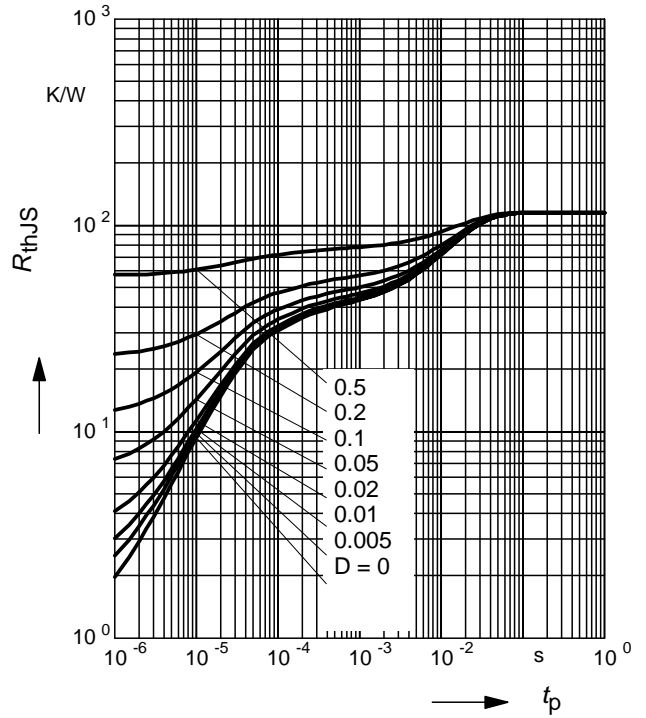
Forward current $I_F = f(T_S)$

BA895



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

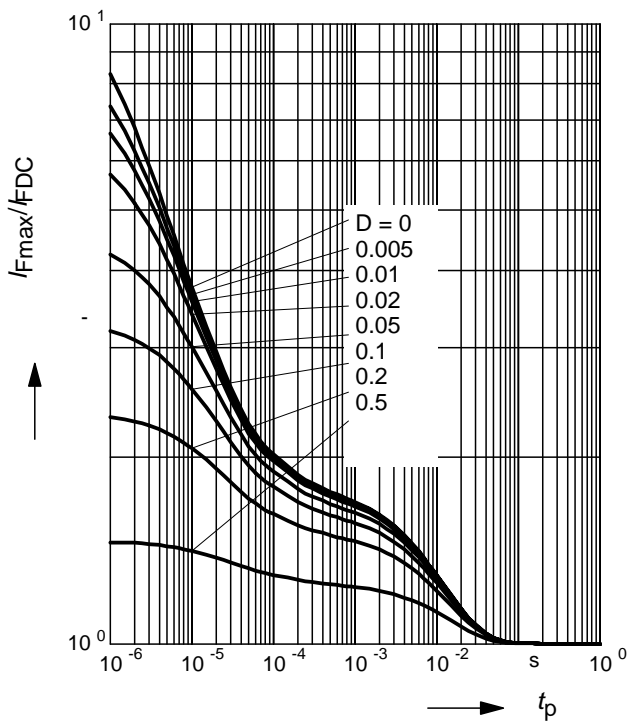
BA595



Permissible Pulse Load

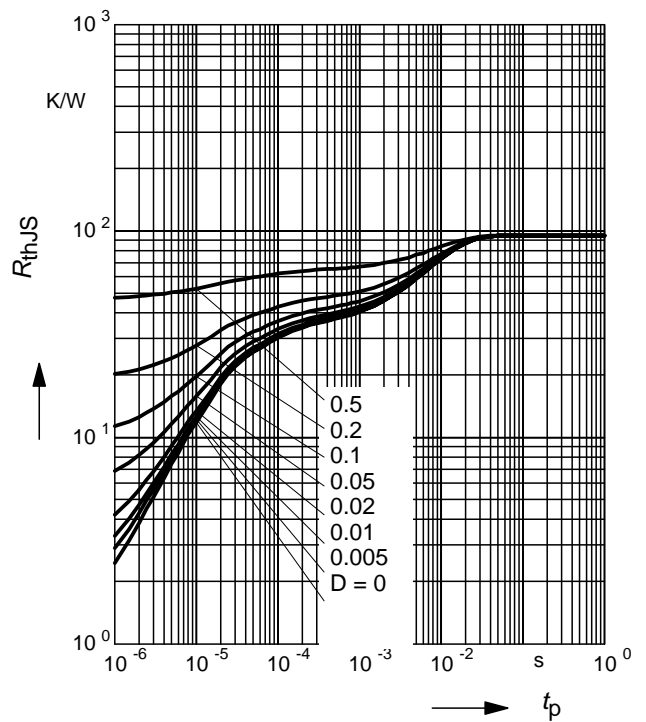
$I_{Fmax} / I_{FDC} = f(t_p)$

BA595



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

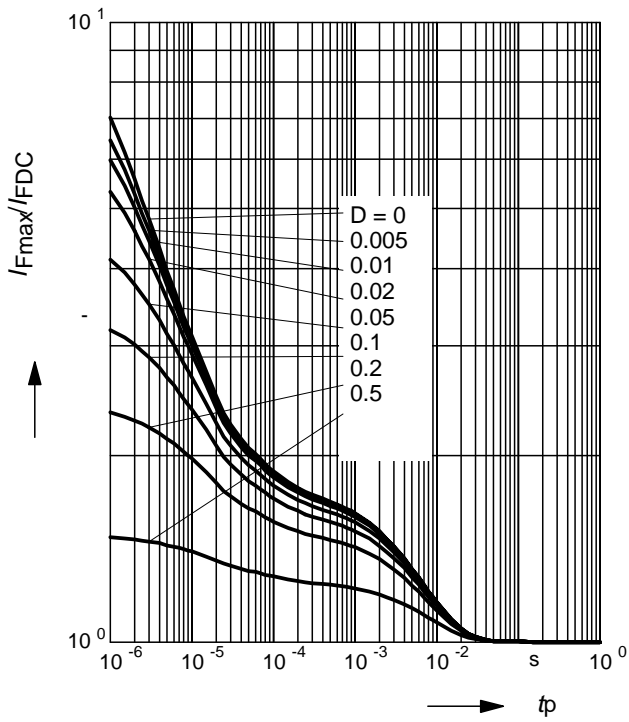
BA595



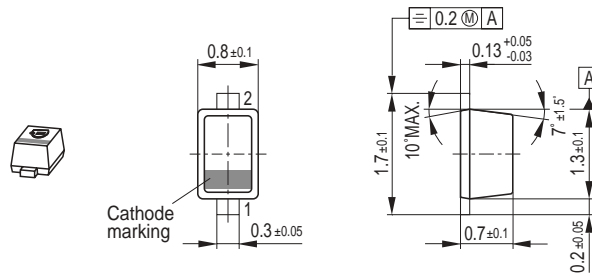
Permissible Pulse Load

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

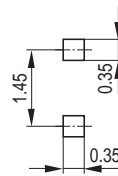
BA895



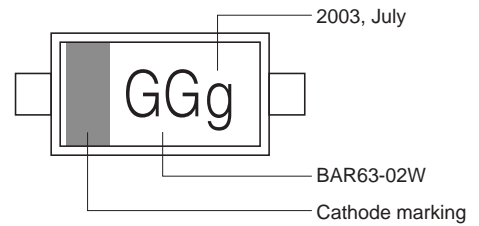
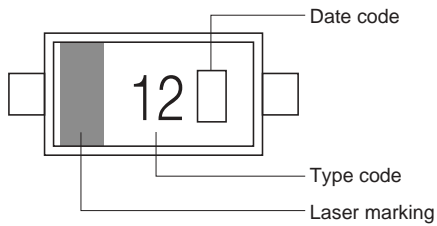
Package Outline



Foot Print



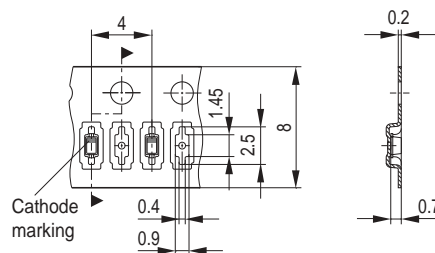
Marking Layout



Example

Standard Packing

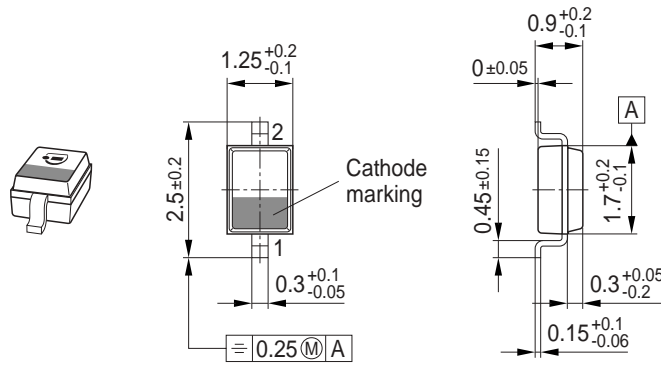
Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



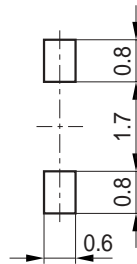
Data Code marking for discrete packages with one digit (SCD80, SC79) CES-Code

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

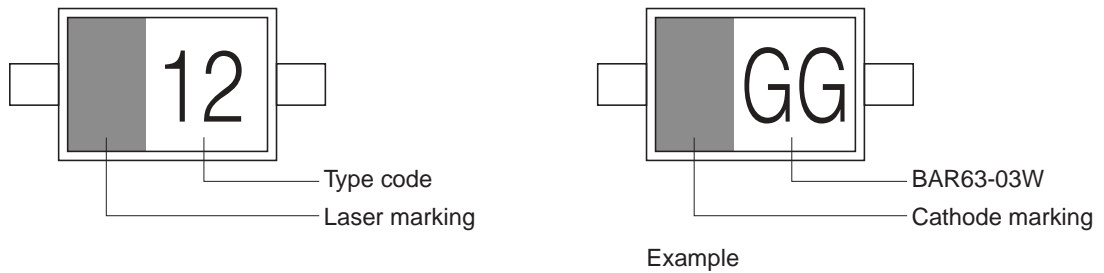
Package Outline



Foot Print

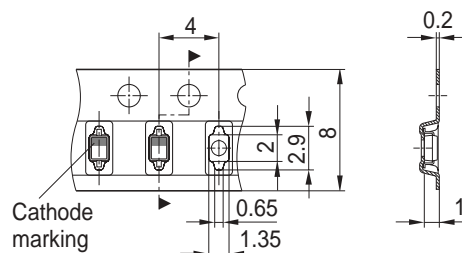


Marking Layout

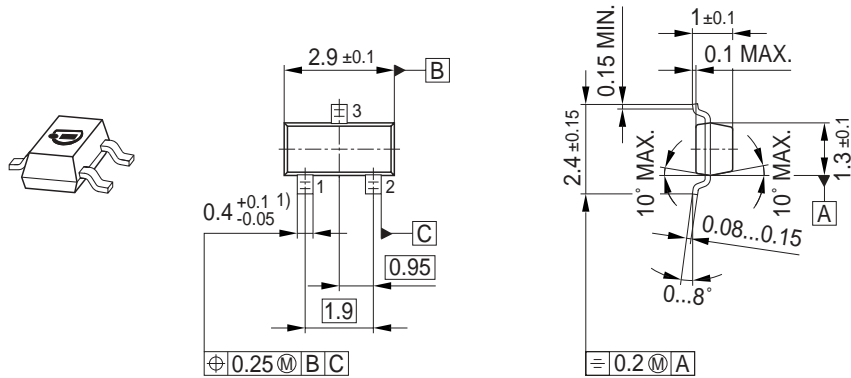


Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel

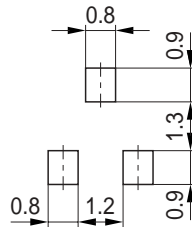


Package Outline

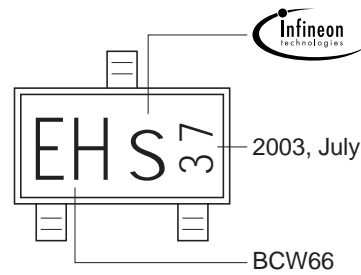
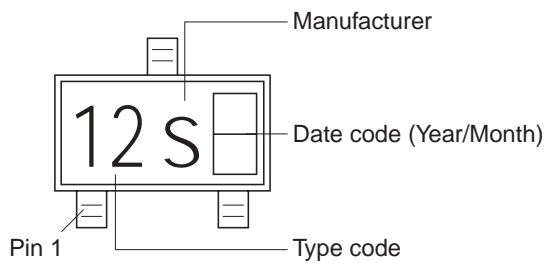


1) Lead width can be 0.6 max. in dambar area

Foot Print



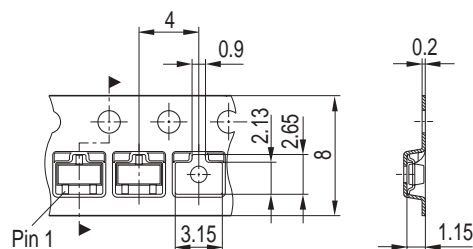
Marking Layout



Example

Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



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