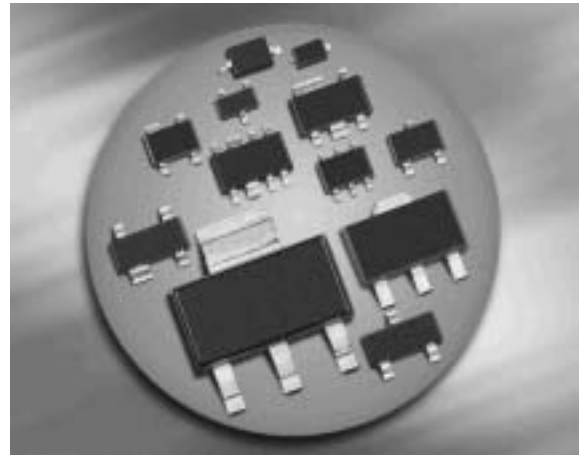
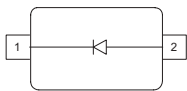


Silicon Schottky Diodes

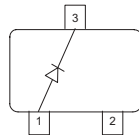
- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Guard ring protected
- Low forward voltage



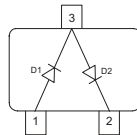
BAT54-02LRH
BAT54-02V



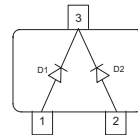
BAT54
BAT54W



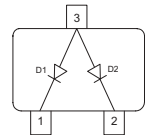
BAT54-04
BAT54-04W



BAT54-05
BAT54-05W



BAT54-06
BAT54-06W



Type	Package	Configuration	L_S (nH)	Marking
BAT54*	SOT23	single	1.8	T
BAT54-02LRH*	TSLP-2-7	single	0.4	54
BAT54-02V*	SC79	single	0.6	b
BAT54-04*	SOT23	series	1.8	TS
BAT54-04W*	SOT323	single	1.4	TS
BAT54-05*	SOT23	common cathode	1.8	TC
BAT54-05W*	SOD323	common cathode	1.4	TC
BAT54-06*	SOT23	common anode	1.8	TA
BAT54-06W*	SOT323	common anode	1.4	TA
BAT54W*	SOT323	single	1.4	T5

* Preliminary data

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	30	V
Forward current	I_F	200	mA
Non-repetitive peak surge forward current ($t \leq 10 \text{ ms}$)	I_{FSM}	600	
Repetitive peak forward current ¹⁾ $t_p \leq 1 \text{ s}, \delta = 0.5$	I_{FRM}	300	mA
Total power dissipation	P_{tot}		mW
BAT54, $T_S \leq 93^\circ\text{C}$		230	
BAT54-02LRH, $T_S \leq \text{tbd } ^\circ\text{C}$		230	
BAT54-02V, $T_S \leq \text{tbd } ^\circ\text{C}$		230	
BAT54-04, $T_S \leq 70^\circ\text{C}$		230	
BAT54-04W, $T_S \leq \text{tbd } ^\circ\text{C}$		230	
BAT54-05, $T_S \leq 47^\circ\text{C}$		230	
BAT54-05W, $T_S \leq \text{tbd } ^\circ\text{C}$		230	
BAT54-06, $T_S \leq 70^\circ\text{C}$		230	
BAT54-06W, $T_S \leq \text{tbd } ^\circ\text{C}$		230	
BAT54W, $T_S \leq \text{tbd } ^\circ\text{C}$		230	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

¹⁾Device mounted on epoxy PCB 40 x 40 x 1.5 mm / 6 cm² Cu

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BAT54		≤ 245	
BAT54-02LRH		$\leq tbd$	
BAT54-02V		$\leq tbd$	
BAT54-04		≤ 345	
BAT54-04W		$\leq tbd$	
BAT54-05		≤ 445	
BAT54-05W		$\leq tbd$	
BAT54-06		≤ 345	
BAT54-06W		$\leq tbd$	
BAT54W		$\leq tbd$	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Breakdown voltage ²⁾ $I_{(BR)} = 10 \mu\text{A}$	$V_{(BR)}$	30	-	-	V
Reverse current ²⁾ $V_R = 25 \text{ V}$	I_R	-	-	2	μA
Forward voltage ²⁾ $I_F = 0.1 \text{ mA}$ $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 30 \text{ mA}$ $I_F = 100 \text{ mA}$	V_F	- - - - -	- - - - -	240 320 400 500 800	mV

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

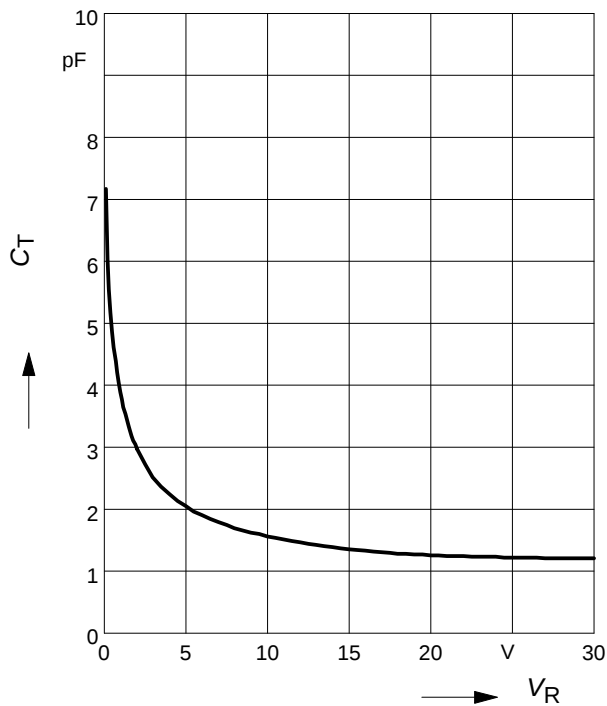
²⁾Pulsed test: $t_p = 300 \mu\text{s}$; $D = 0.01$

AC Characteristics

Diode capacitance $V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_T	-	-	10	pF
Reverse recovery time $I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, measured $I_R = 1\text{ mA}$, $R_L = 100\ \Omega$	t_{rr}	-	-	5	ns

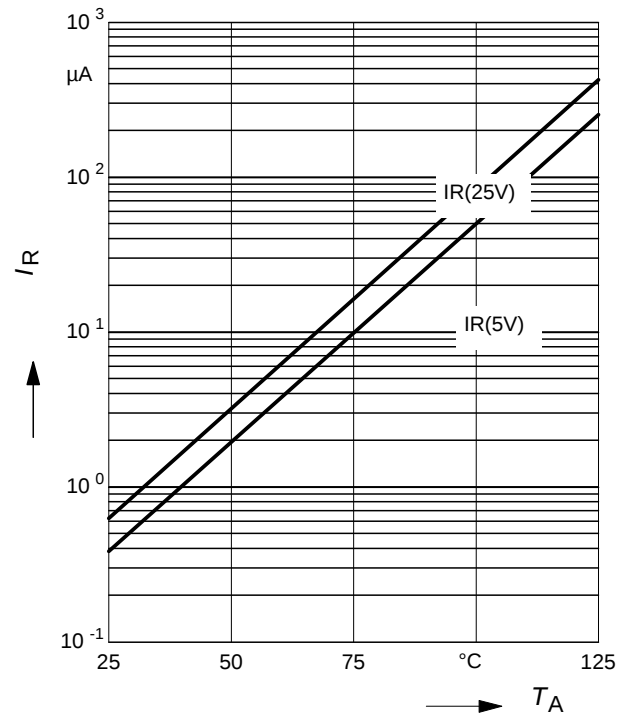
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



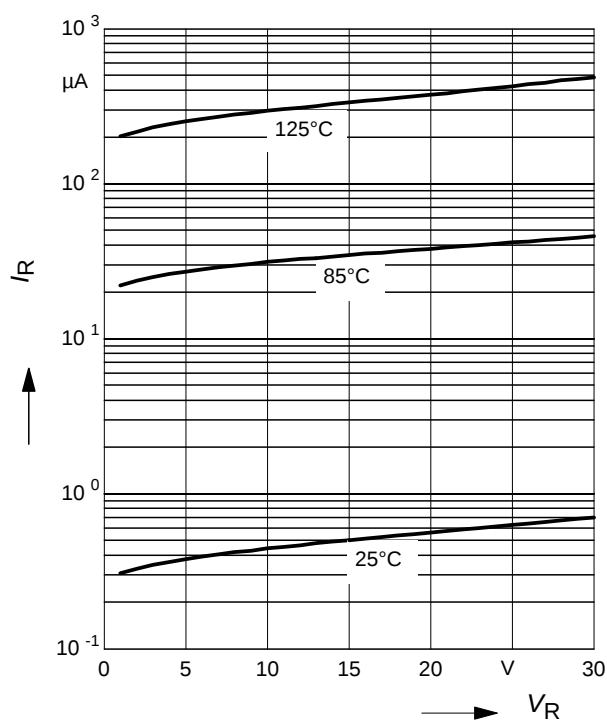
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



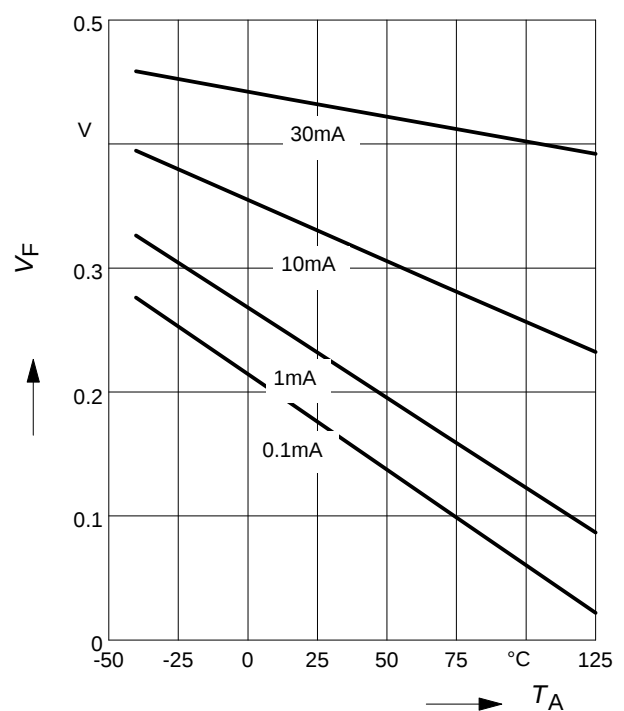
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



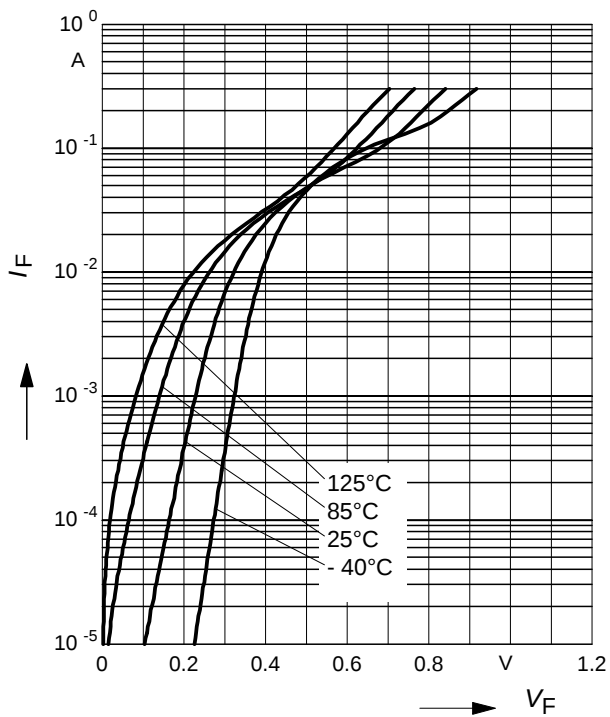
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



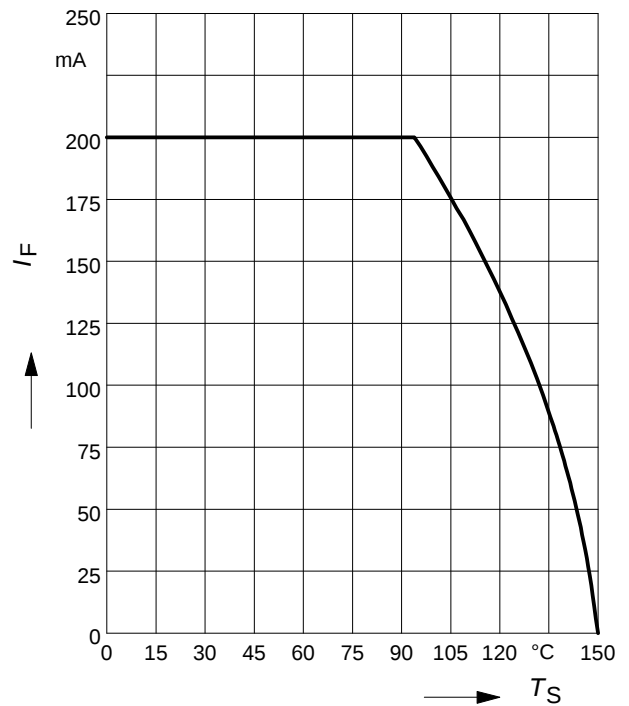
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



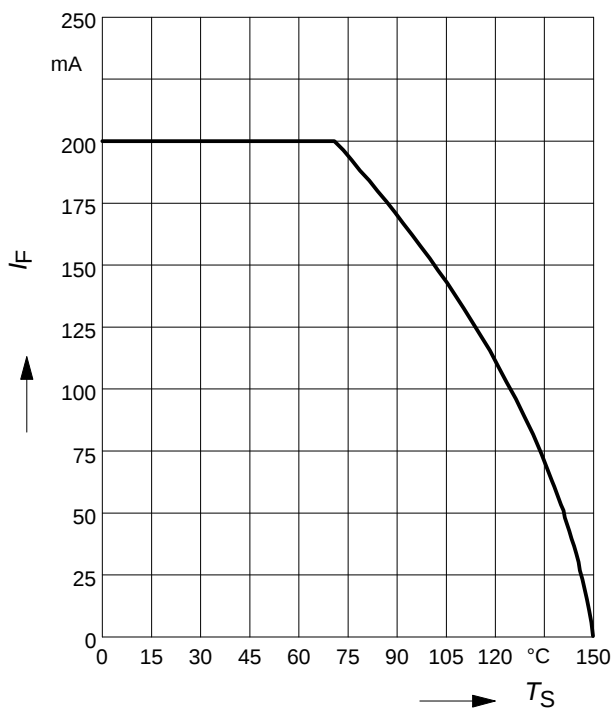
Forward current $I_F = f(T_S)$

BAT54



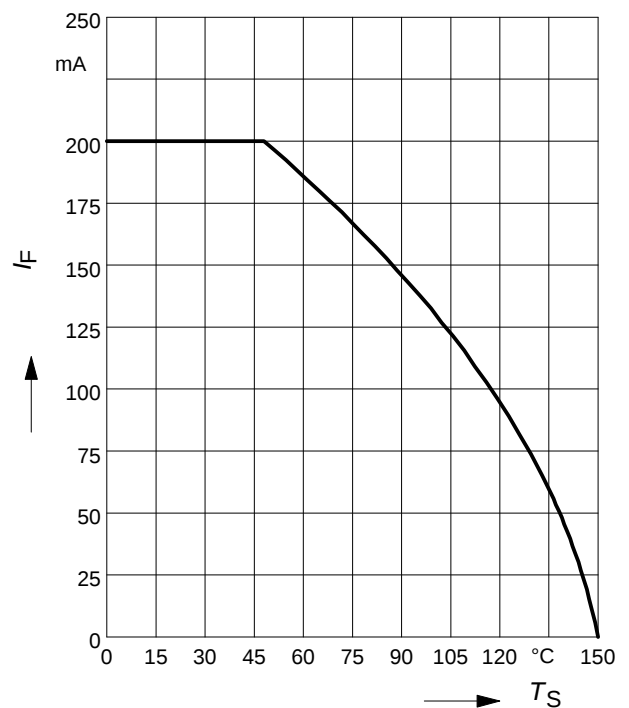
Forward current $I_F = f(T_S)$

BAT54-04, BAT54-06

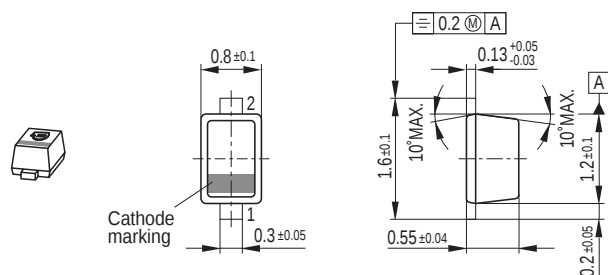


Forward current $I_F = f(T_S)$

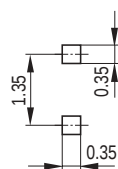
BAT54-05



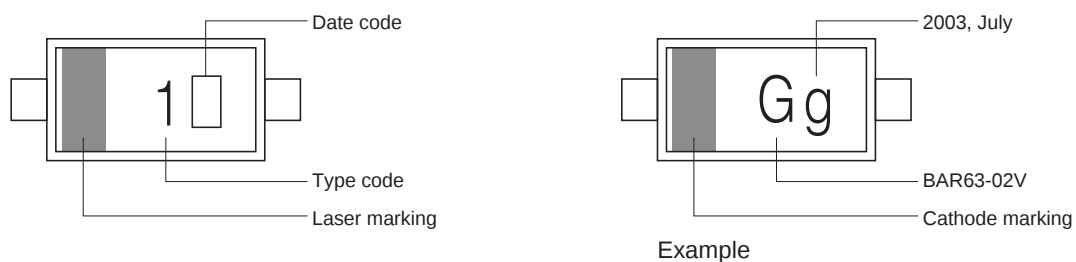
Package Outline



Foot Print

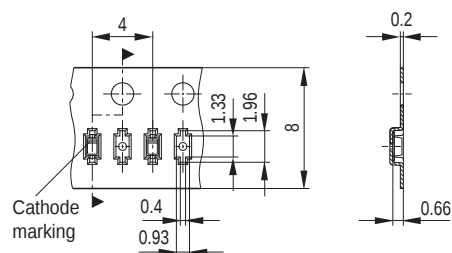


Marking Layout



Standard Packing

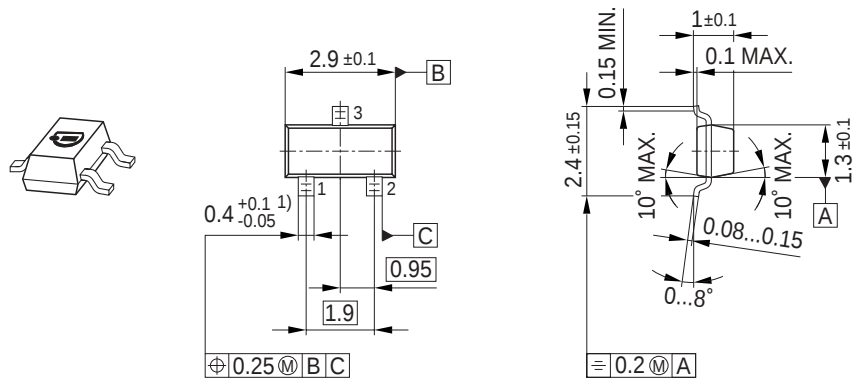
Reel $\varnothing 180$ mm = 3.000 Pieces/Reel
 Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



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

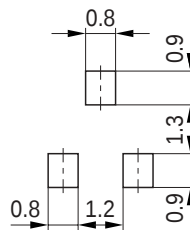
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y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

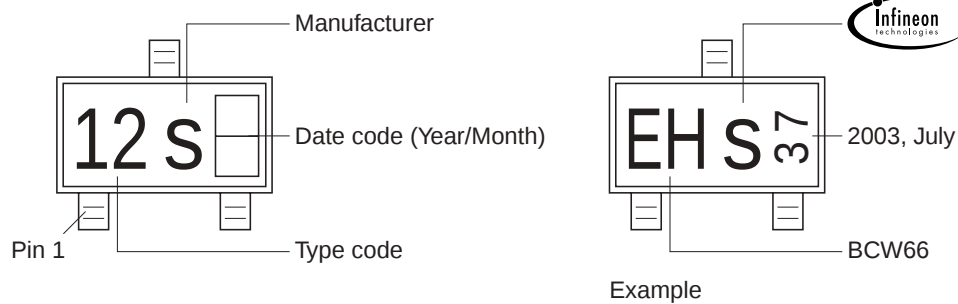


1) Lead width can be 0.6 max. in dambar area

Foot Print

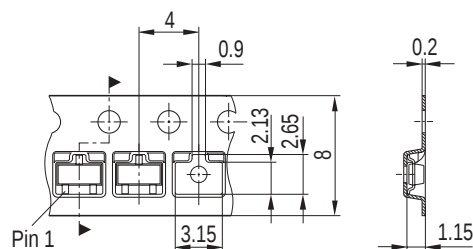


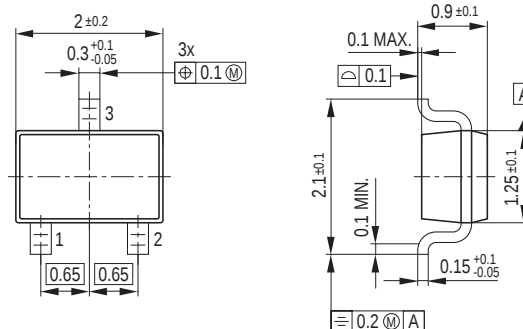
Marking Layout



Standard Packing

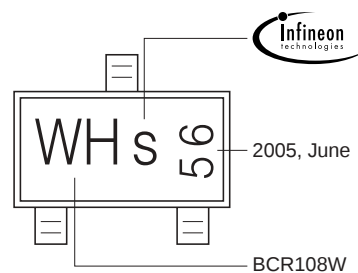
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel





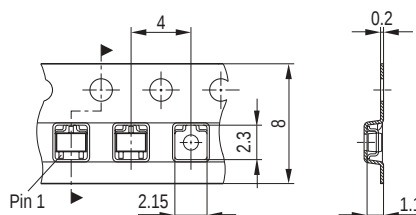
Technical drawing of a mechanical part with dimensions: 0.6, 0.8, 0.65, and 1.6.

The diagram shows a rectangular component with a central display area. The display shows '12s'. To the right of the display is a small rectangular area labeled 'Date code (Year/Month)'. Above the component is a small rectangular area labeled 'Manufacturer'. Below the component is a small rectangular area labeled 'Type code'. On the left side, there is a pin labeled 'Pin 1'.

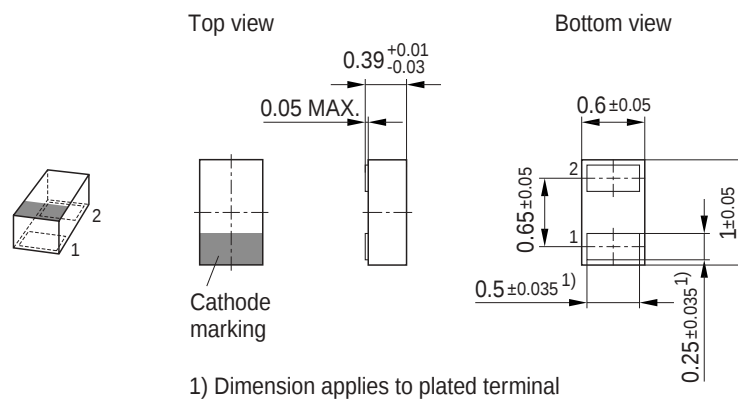


Example

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

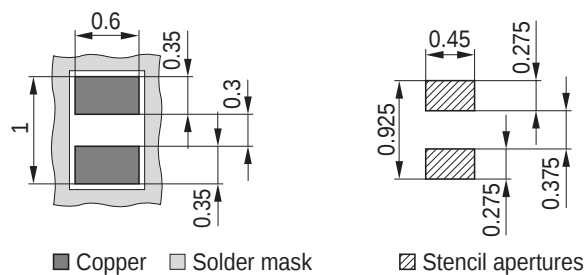


Package Outline

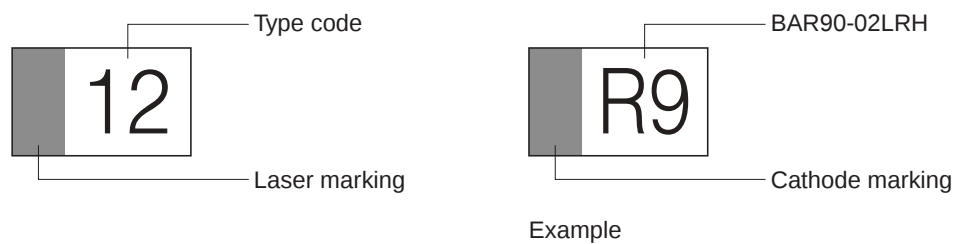


Foot Print

For board assembly information please refer to Infineon website "Packages"

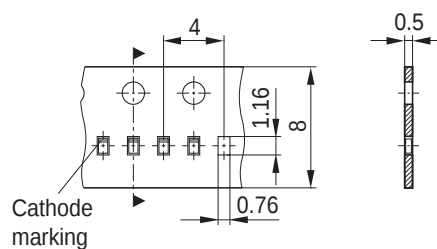


Marking Layout



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel



Published by Infineon Technologies AG,
St.-Martin-Strasse 53,
81669 München
© Infineon Technologies AG 2005.
All Rights Reserved.

Attention please!

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.