

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	80	V
Peak reverse voltage	$V_{RM}$	85	
Forward current	$I_F$		mA
BAS16		250	
BAS16-02L, -07L4		200	
BAS16-02V, -02W		200	
BAS16-03W		250	
BAS16S		200	
BAS16U		200	
BAS16W		250	
Non-repetitive peak surge forward current	$I_{FSM}$		A
$t = 1\text{ }\mu\text{s}$ , BAS16/ S/ U/ W/ -03W		4.5	
$t = 1\text{ }\mu\text{s}$ , BAS16-02L/ -02V/ -02W/ -07L4		2.5	
$t = 1\text{ s}$		0.5	
Total power dissipation	$P_{tot}$		mW
BAS16, $T_S \leq 54\text{ °C}$		370	
BAS16-02L, -07L4, $T_S \leq 130\text{ °C}$		250	
BAS16-02V, -02W, $T_S \leq 120\text{ °C}$		250	
BAS16-03W, $T_S \leq 116\text{ °C}$		250	
BAS16S, $T_S \leq 85\text{ °C}$		250	
BAS16U, $T_S \leq 113\text{ °C}$		250	
BAS16W, $T_S \leq 119\text{ °C}$		250	
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-65 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BAS16, BAS16S		≤ 260	
BAS16-02L, -07L4		≤ 80	
BAS16-02V, -02W		≤ 120	
BAS16-03W		≤ 135	
BAS16U		≤ 150	
BAS16W		≤ 125	

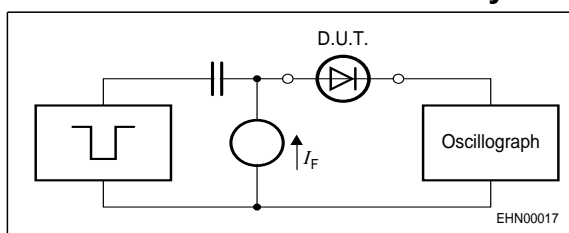
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 100 \mu A$	$V_{(BR)}$	85	-	-	V
Reverse current $V_R = 75 V$ $V_R = 25 V, T_A = 150 ^\circ C$ $V_R = 75 V, T_A = 150 ^\circ C$	$I_R$	- - -	- - -	1 30 50	$\mu A$
Forward voltage $I_F = 1 mA$ $I_F = 10 mA$ $I_F = 50 mA$ $I_F = 100 mA$ $I_F = 150 mA$	$V_F$	- - - - -	- - - - -	715 855 1000 1200 1250	mV
Forward recovery voltage $I_F = 10 mA, t_P = 20 ns$	$V_{fr}$	-	-	1.75	V

<sup>1)</sup>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.	
AC Characteristics					
Diode capacitance $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$	$C_T$	-	-	2	pF
Reverse recovery time $I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , measured at $I_R = 1\text{ mA}$ , $R_L = 100\ \Omega$	$t_{rr}$	-	-	4	ns

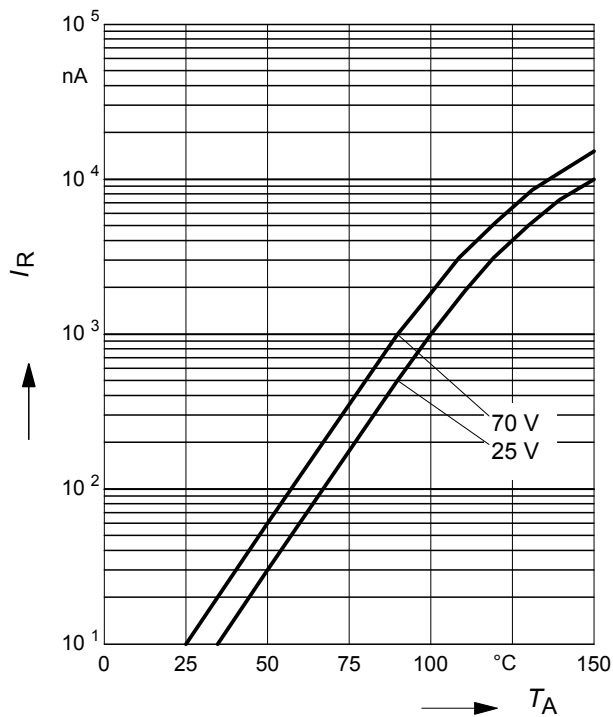
**Test circuit for reverse recovery time**


Pulse generator:  $t_p = 100\text{ ns}$ ,  $D = 0.05$ ,  $t_r = 0.6\text{ ns}$ ,  
 $R_i = 50\ \Omega$

Oscilloscope:  $R = 50\ \Omega$ ,  $t_r = 0.35\text{ ns}$ ,  $C = 0.05\text{ pF}$

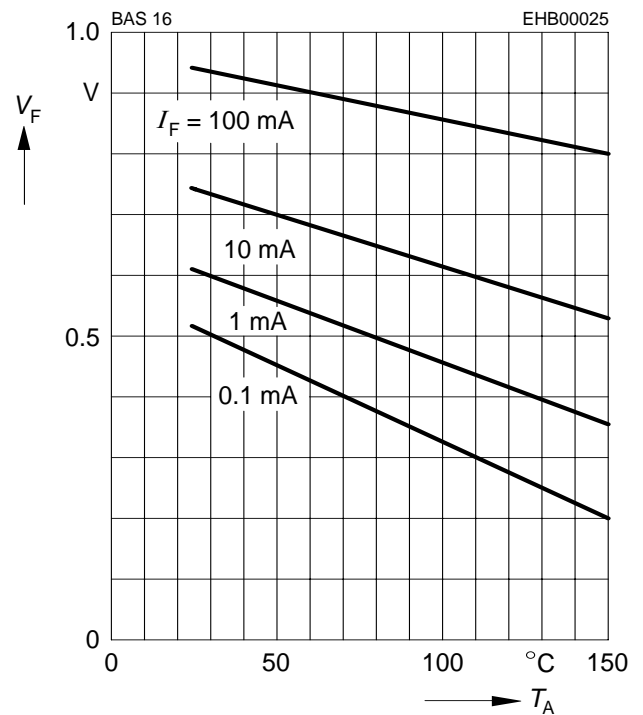
**Reverse current  $I_R = f(T_A)$**

$V_R = \text{Parameter}$



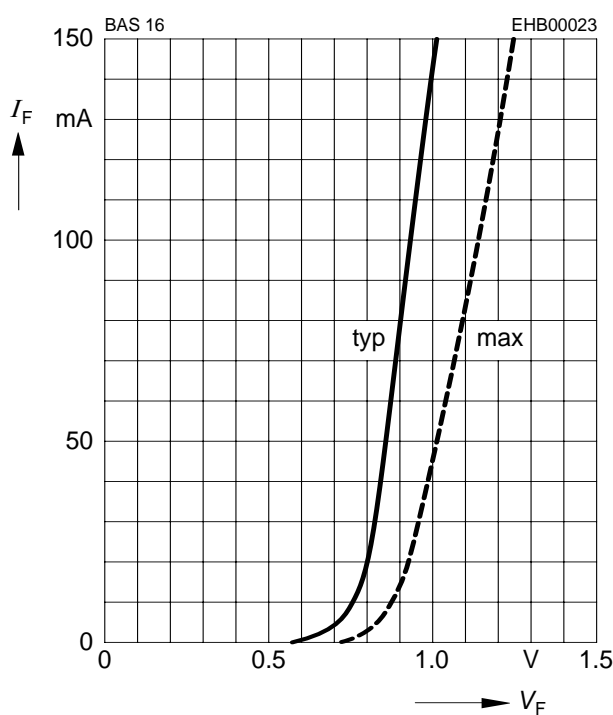
**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



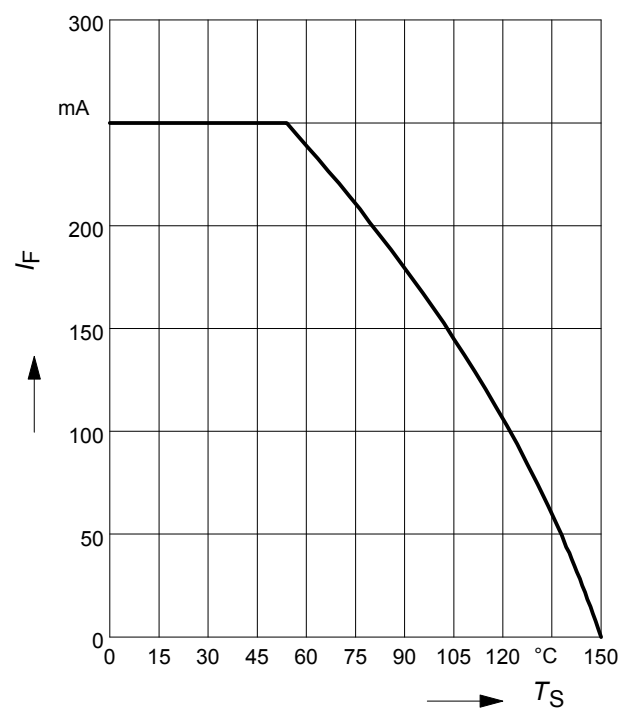
**Forward current  $I_F = f(V_F)$**

$T_A = 25^\circ\text{C}$



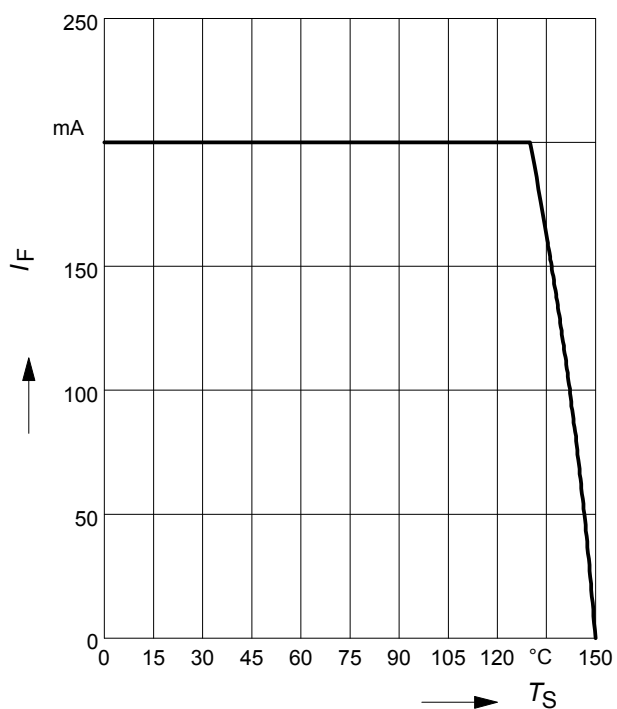
**Forward current  $I_F = f(T_S)$**

BAS16



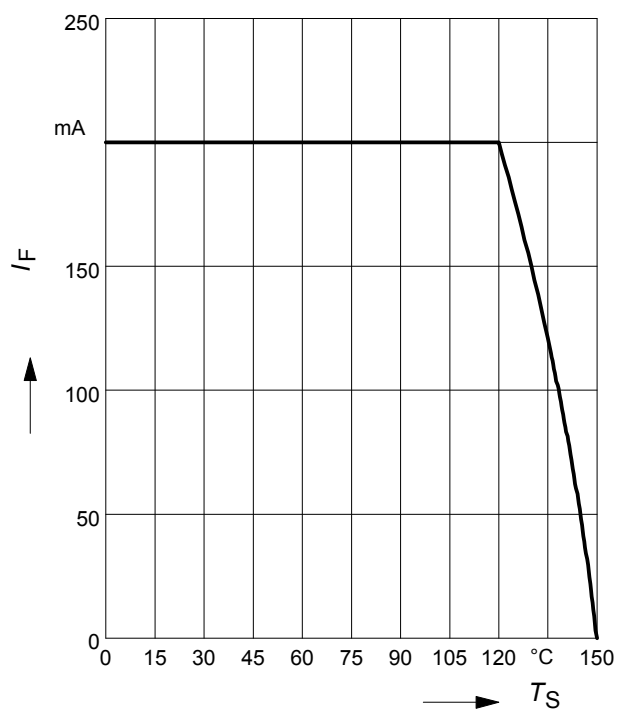
**Forward current  $I_F = f(T_S)$**

BAS16-02L, -07L4



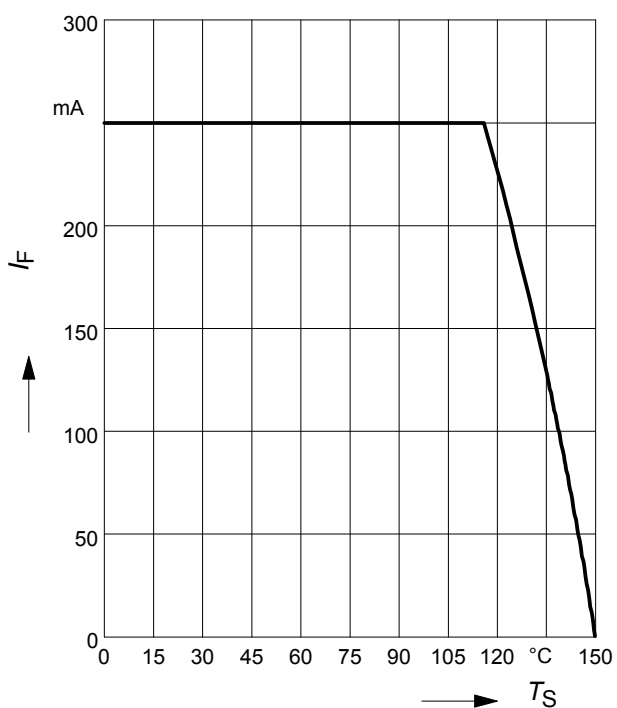
**Forward current  $I_F = f(T_S)$**

BAS16-02V, -02W



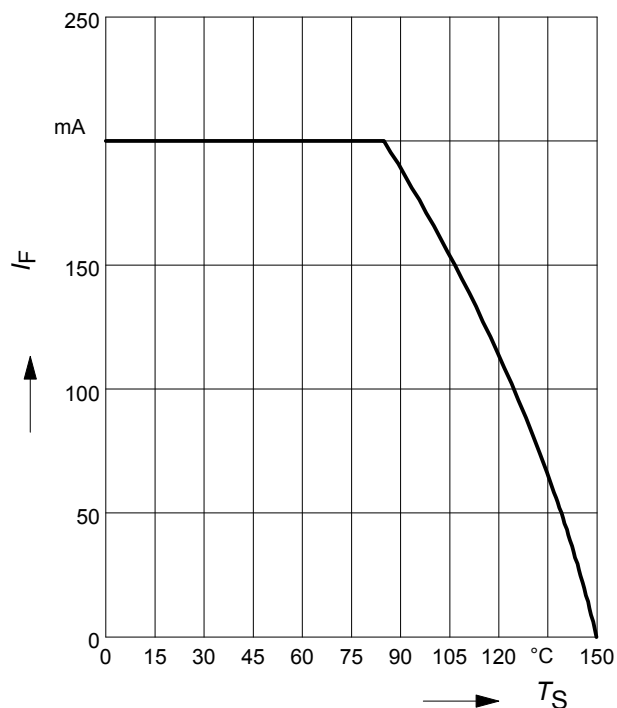
**Forward current  $I_F = f(T_S)$**

BAS16-03W



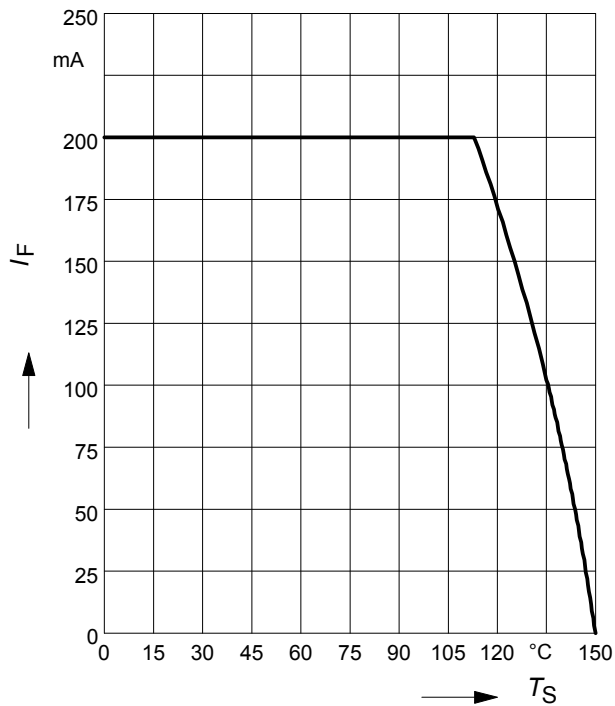
**Forward current  $I_F = f(T_S)$**

BAS16S



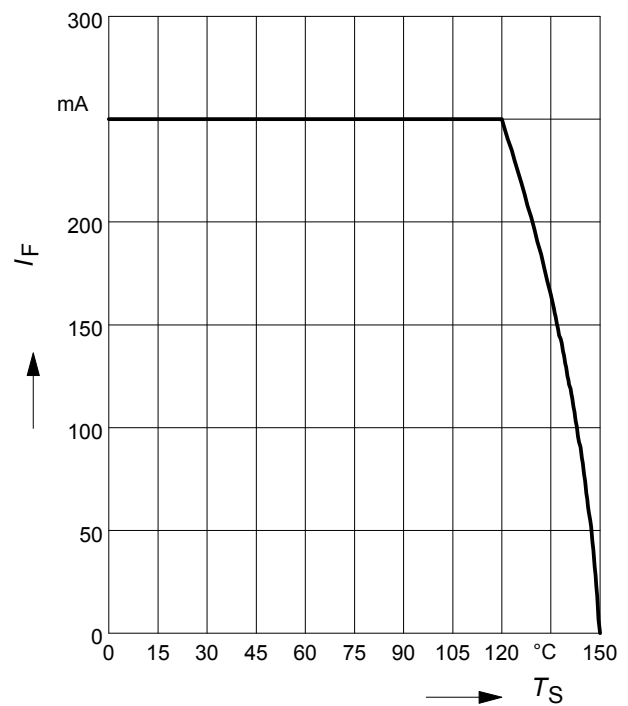
**Forward current  $I_F = f(T_S)$**

BAS16U



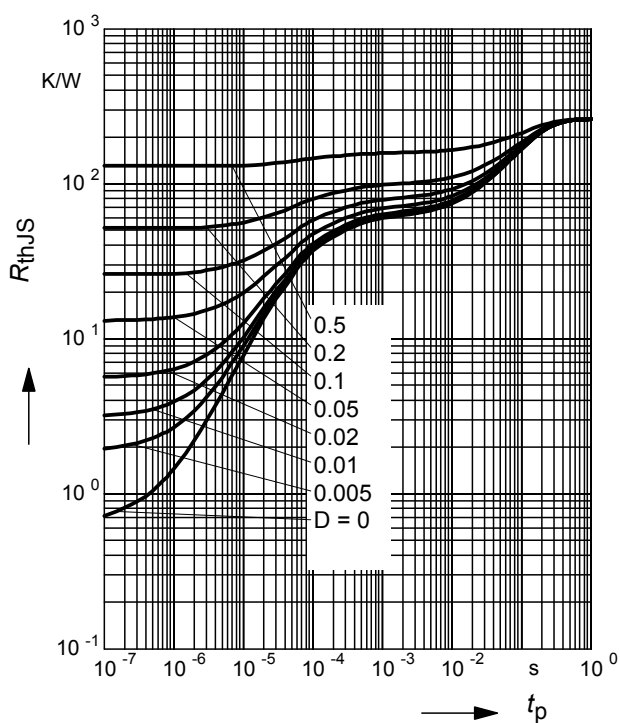
**Forward current  $I_F = f(T_S)$**

BAS16W



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

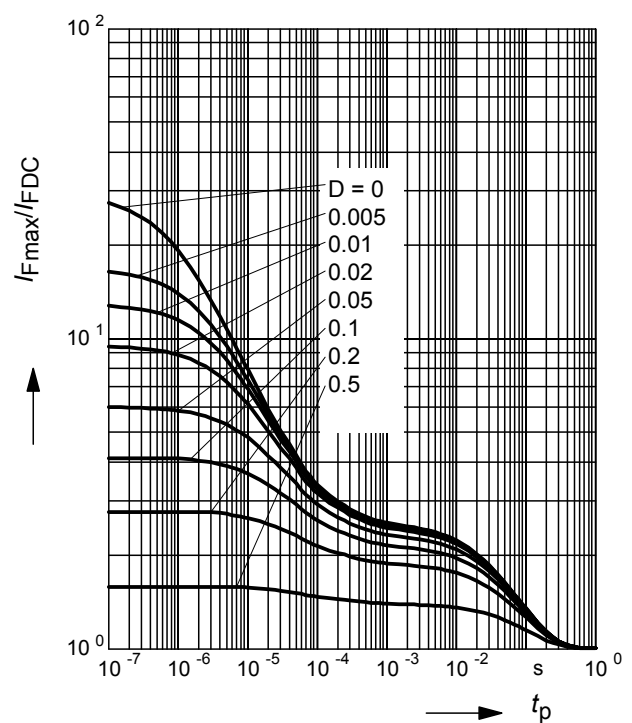
BAS16



**Permissible Pulse Load**

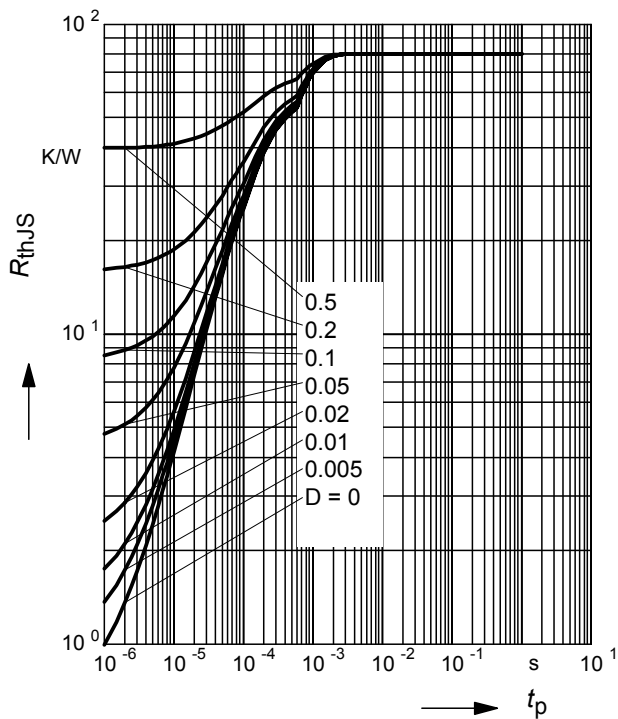
$I_{Fmax}/I_{FDC} = f(t_p)$

BAS16



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

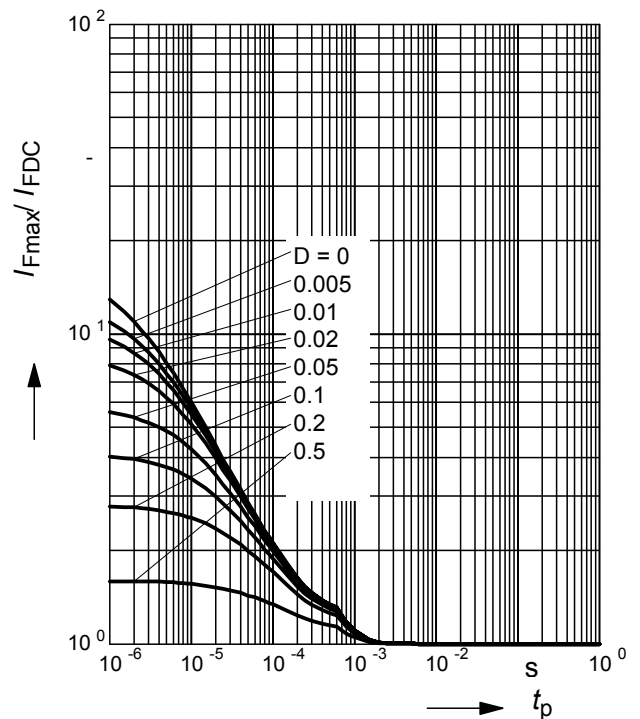
BAS16-02L, -07L4



### Permissible Pulse Load

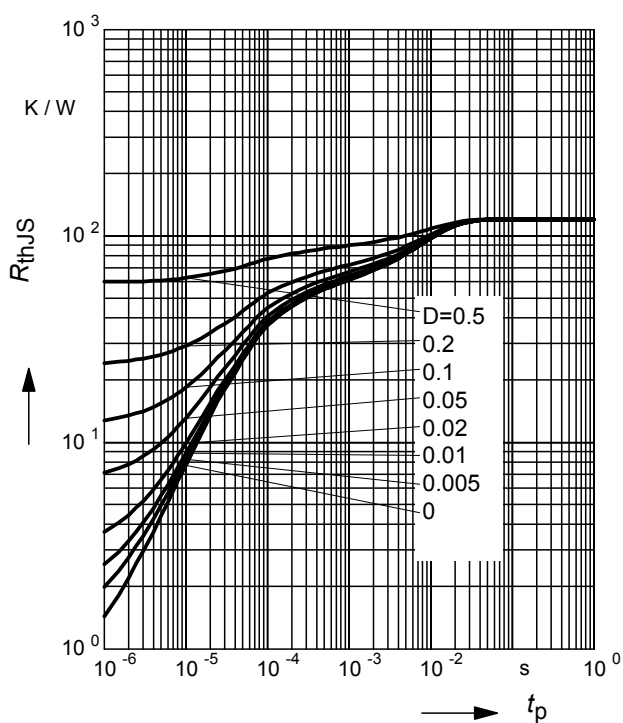
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS16-02L, -07L4



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

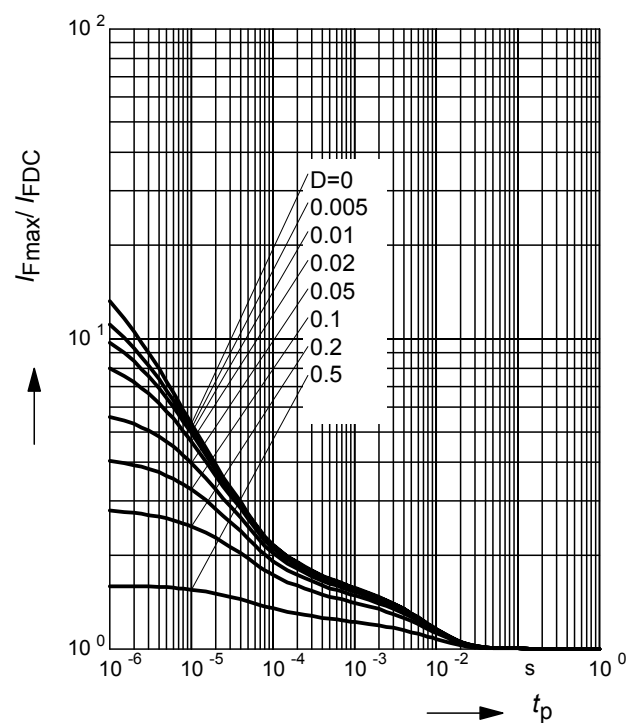
BAS16-02V, -02W



### Permissible Pulse Load

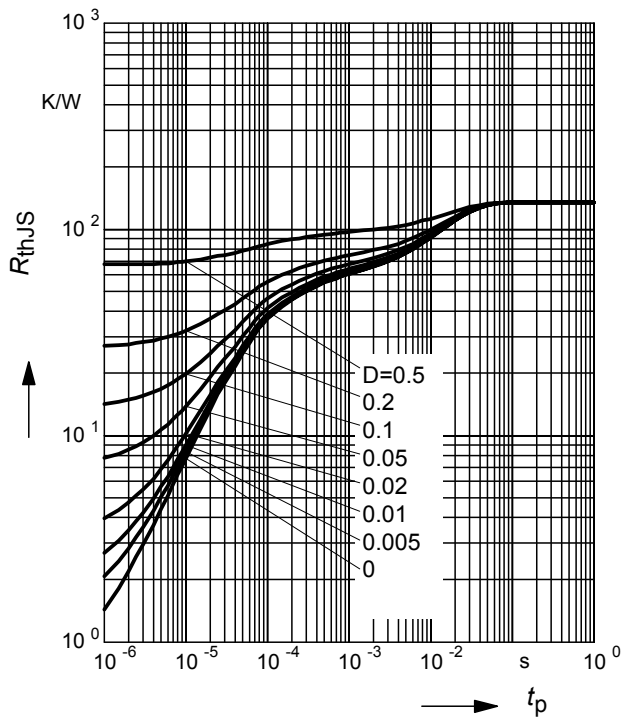
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS16-02V, -02W



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

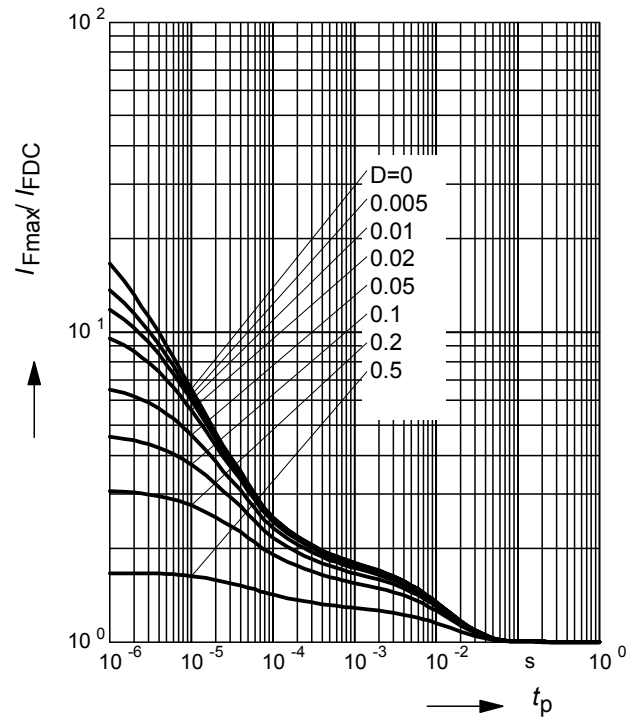
BAS16-03W



### Permissible Pulse Load

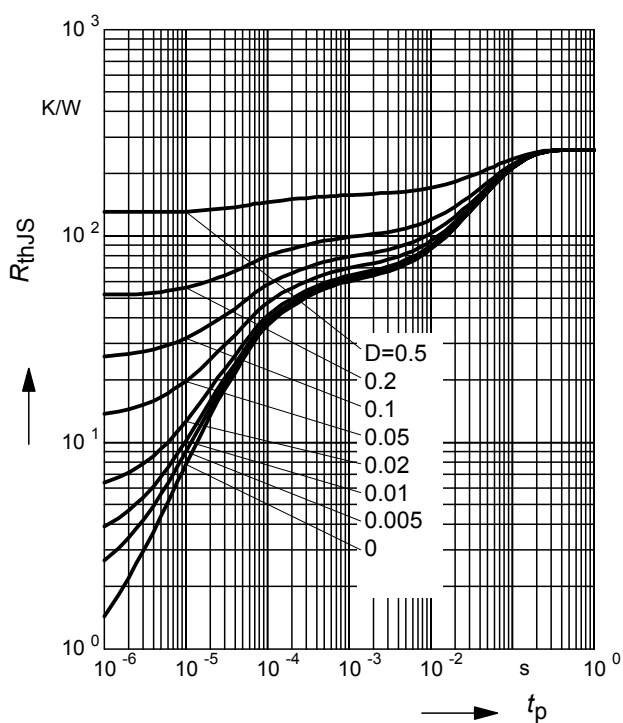
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS16-03W



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

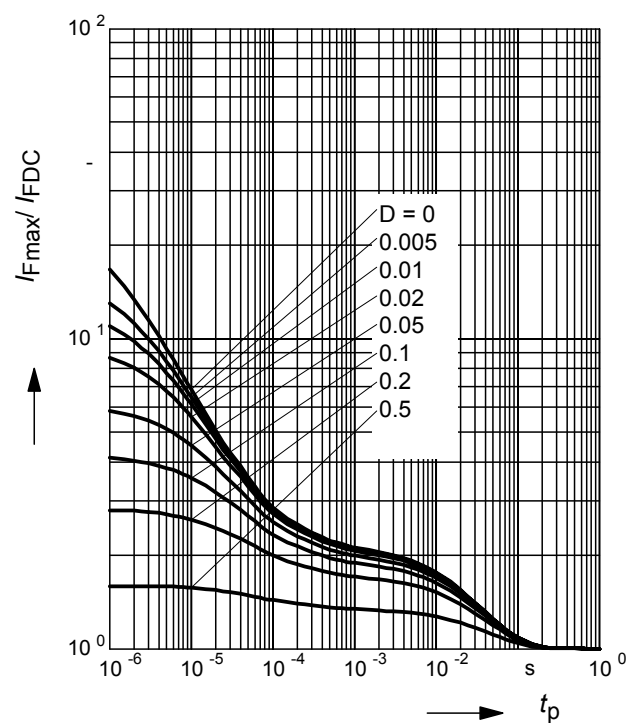
BAS16S



### Permissible Pulse Load

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

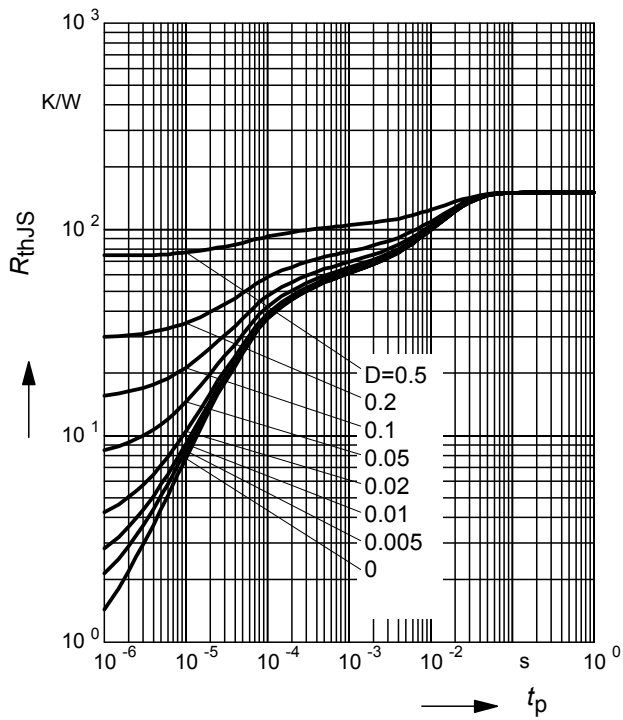
BAS16S





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

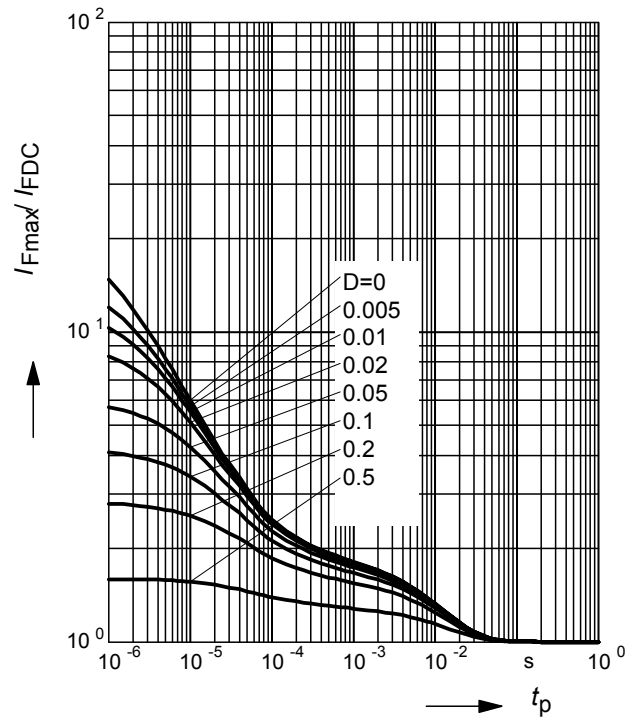
BAS16U



### Permissible Pulse Load

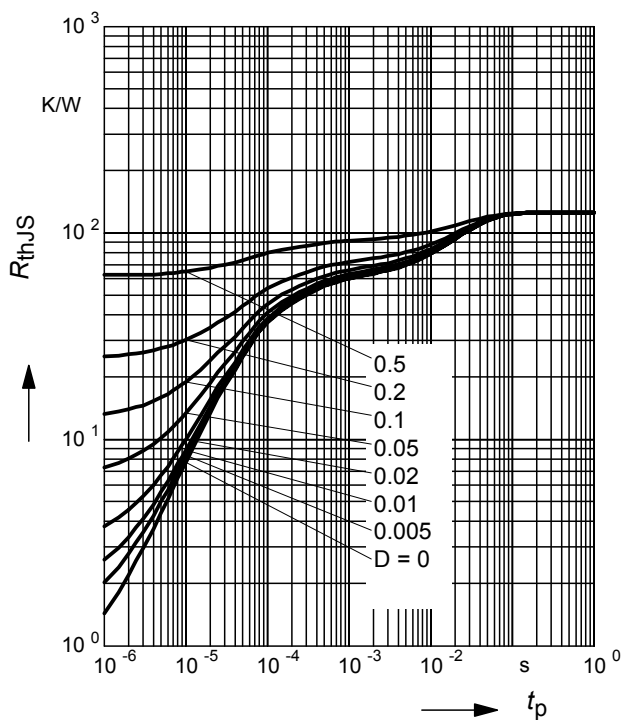
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS16U



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

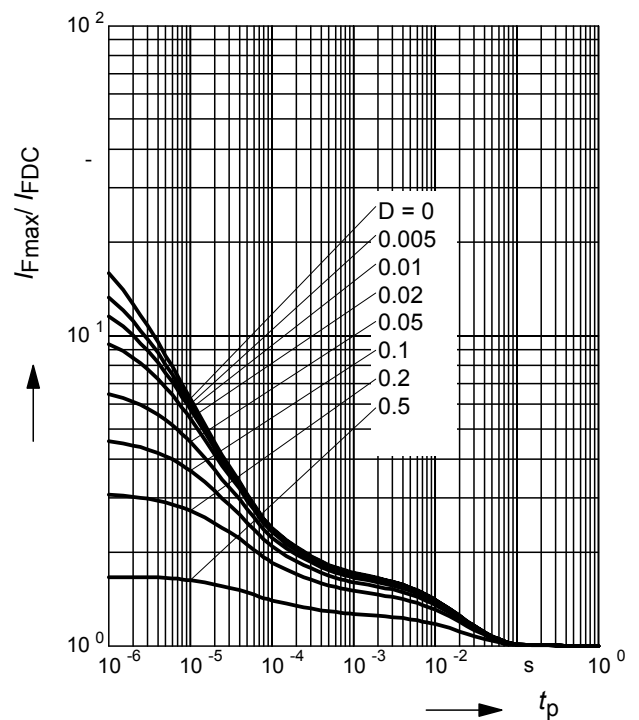
BAS16W



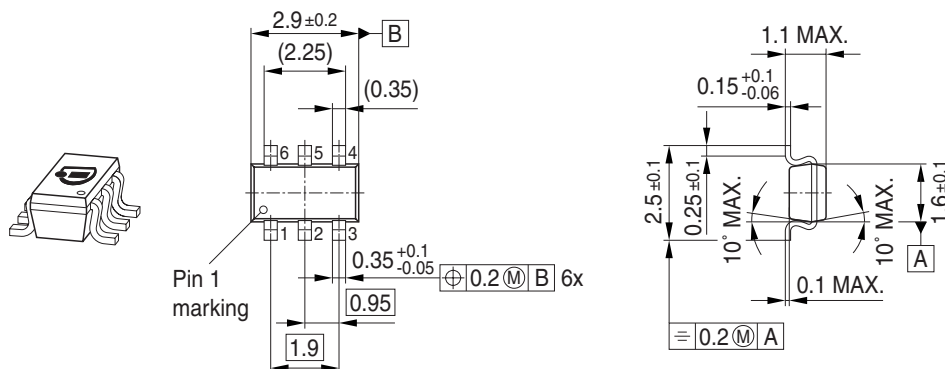
### Permissible Pulse Load

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

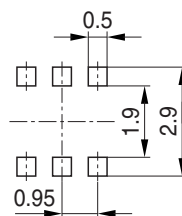
BAS16W



## Package Outline

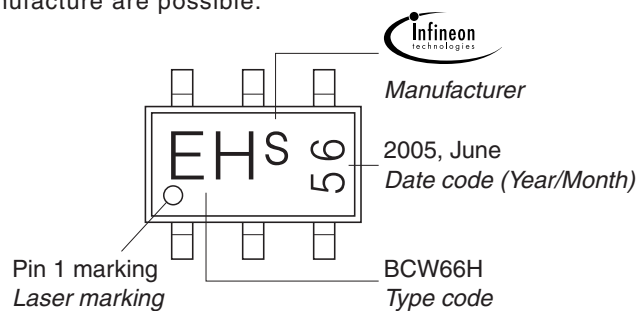


## Foot Print



## Marking Layout (Example)

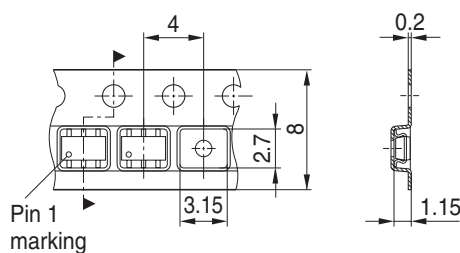
Small variations in positioning of Date code, Type code and Manufacture are possible.



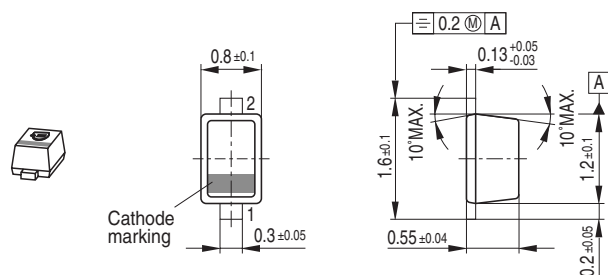
## Standard Packing

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

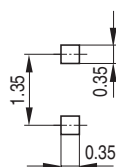
For symmetric types no defined Pin 1 orientation in reel.



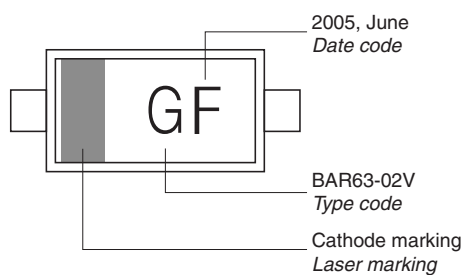
## Package Outline



## Foot Print

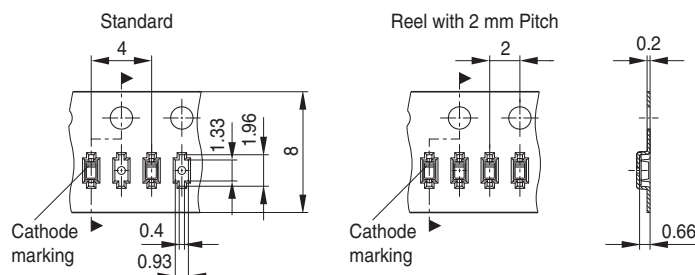


## Marking Layout (Example)

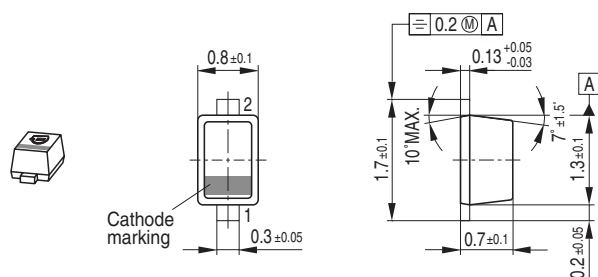


## Standard Packing

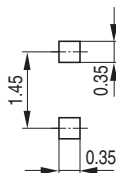
Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)  
 Reel ø330 mm = 10.000 Pieces/Reel



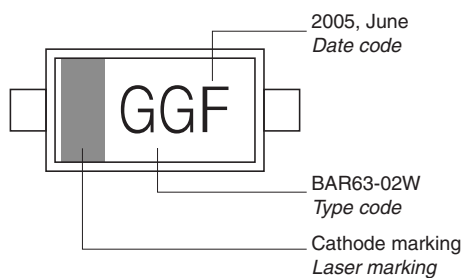
## Package Outline



## Foot Print

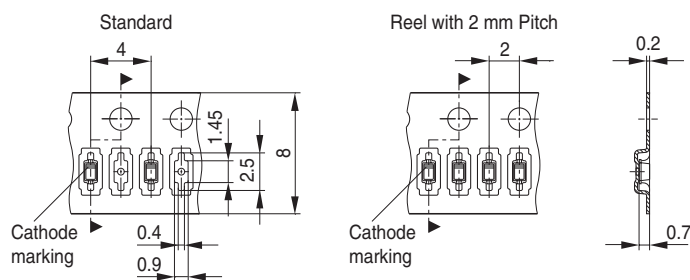


## Marking Layout (Example)



## 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

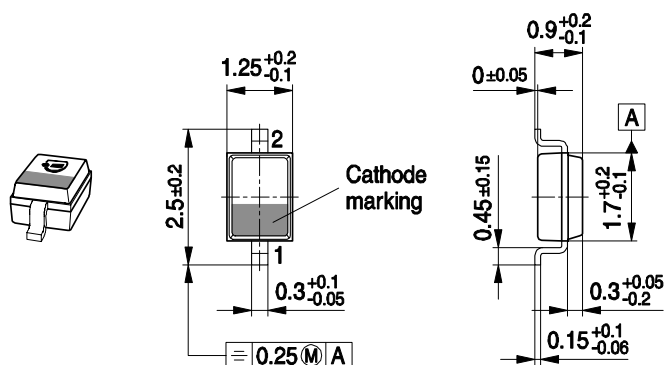


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75<sup>1)</sup>) CES-Code

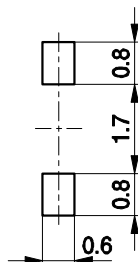
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y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

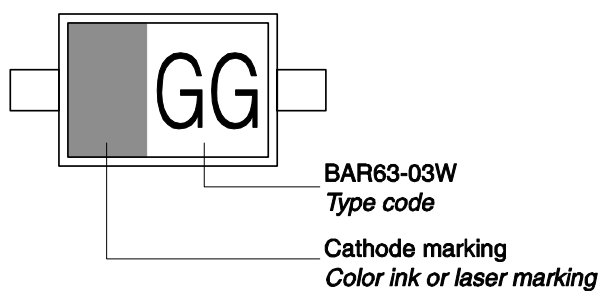
## Package Outline



## Foot Print

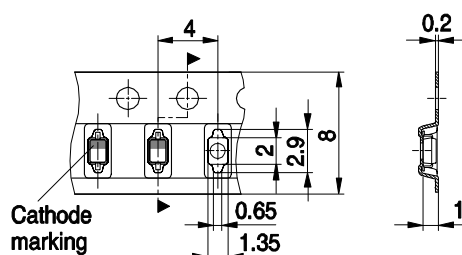


## Marking Layout (Example)

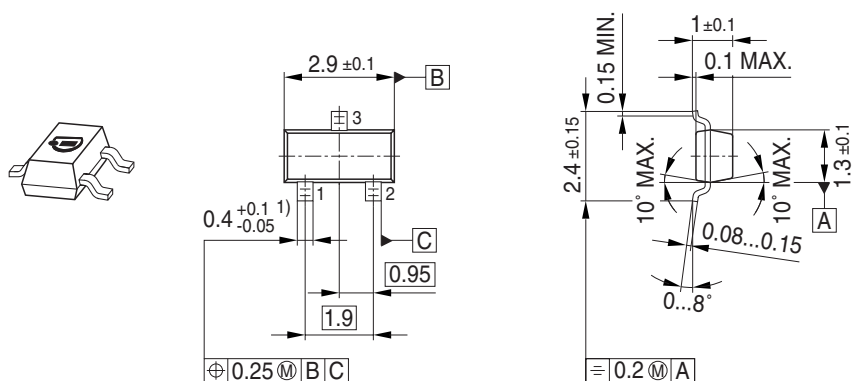


## Standard Packing

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

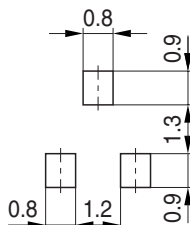


## Package Outline

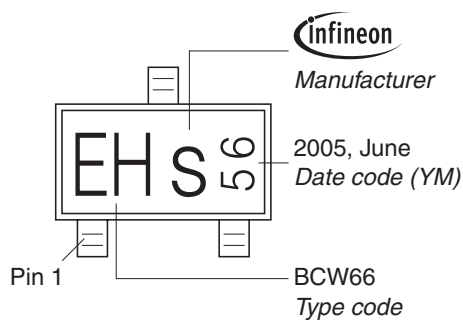


1) Lead width can be 0.6 max. in dambar area

## Foot Print

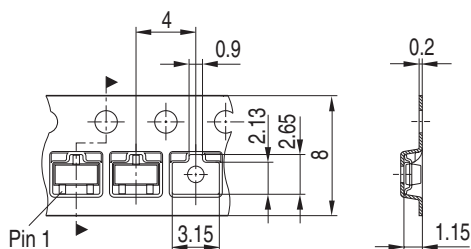


## Marking Layout (Example)

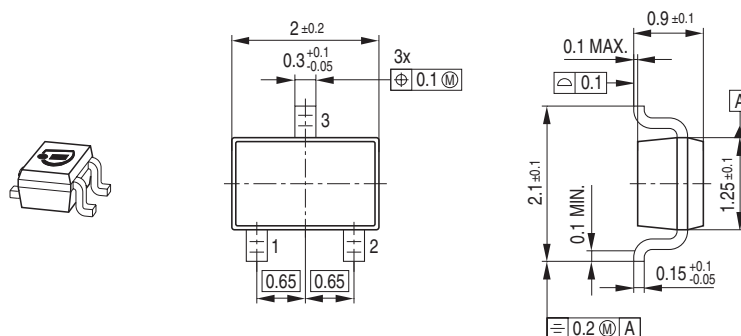


## Standard Packing

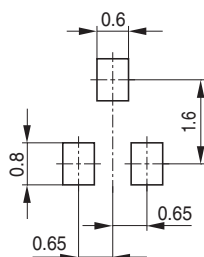
Reel ø180 mm = 3.000 Pieces/Reel  
Reel ø330 mm = 10.000 Pieces/Reel



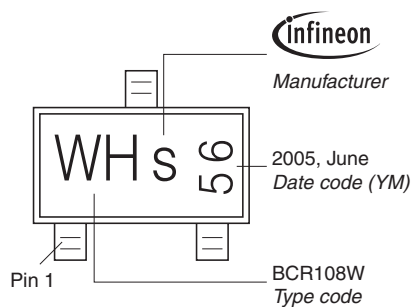
## Package Outline



## Foot Print

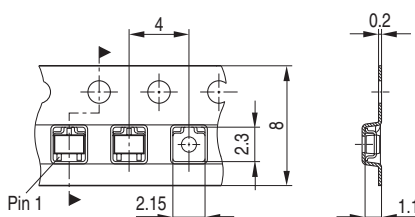


## Marking Layout (Example)



## Standard Packing

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



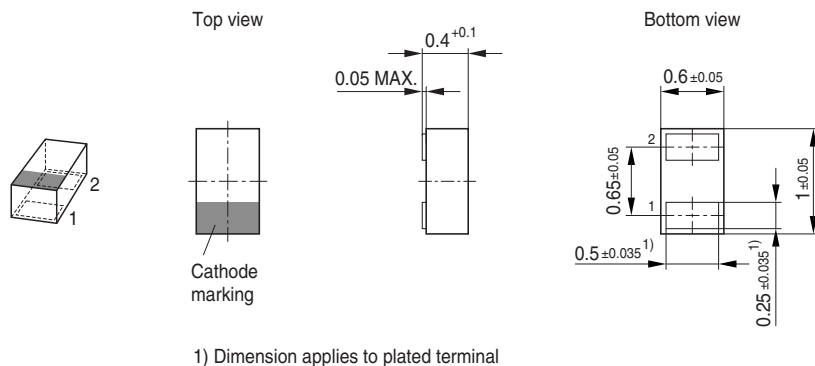


[illegible]

Diagram illustrating the marking on the BCR108S component:

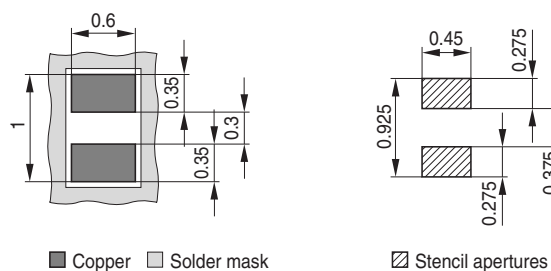
- Manufacturer:** WH
- Date code (Year/Month):** 05 (2005, June)
- Type code:** S (BCR108S)
- Pin 1 marking:** Laser marking (indicated by a circle around the 'S')

## Package Outline

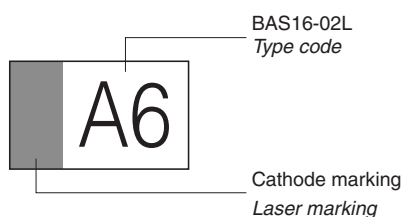


## Foot Print

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

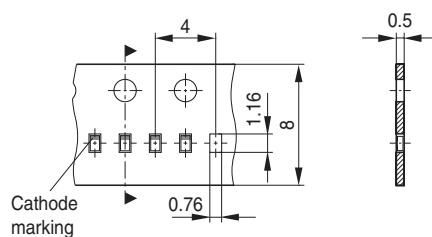


## Marking Layout (Example)



## Standard Packing

Reel  $\varnothing$ 180 mm = 15.000 Pieces/Reel  
Reel  $\varnothing$ 330 mm = 50.000 Pieces/Reel (optional)





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