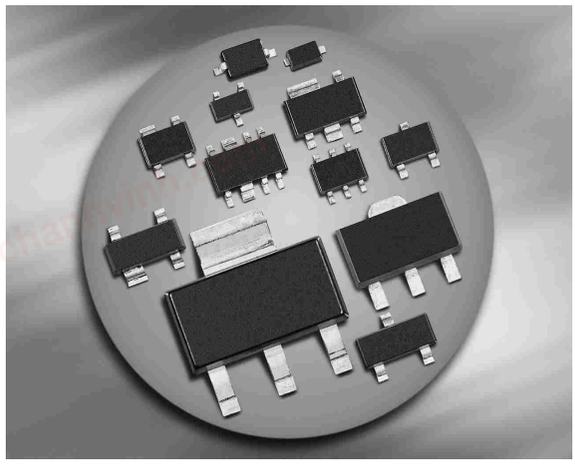
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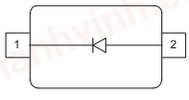
Silicon Schottky Diode

- General-purpose diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing
- BAS70-04S: For orientation in reel see package information below
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101[1)]

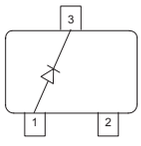


AEC Qualified RoHS

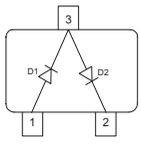
BAS170W
BAS70-02L
BAS70-02W
BAS70-02V



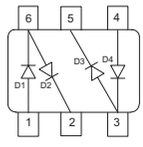
BAS70



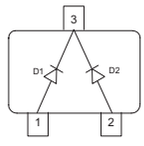
BAS70-04
BAS70-04W



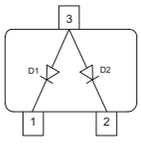
BAS70-04S



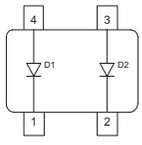
BAS70-05
BAS70-05W



BAS70-06
BAS70-06W



BAS70-07
BAS70-07W



[1]BAS70-02L is not qualified according AEC Q101

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Type	Package	Configuration	L_S(nH)	Marking
BAS170W	SOD323	single	1.8	white 7
BAS70	SOT23	single	1.8	73s
BAS70-02L	TSLP-2-1	single, leadless	0.4	F
BAS70-02V	SC79	single	0.6	c
BAS70-02W*	SCD80	single	0.6	73
BAS70-04	SOT23	series	1.8	74s
BAS70-04S	SOT363	dual series	1.6	74s
BAS70-04W	SOT323	series	1.4	74s
BAS70-05	SOT23	common cathode	1.8	75s
BAS70-05W	SOT323	common cathode	1.4	75s
BAS70-06	SOT23	common anode	1.8	76s
BAS70-06W	SOT323	common anode	1.4	76s
BAS70-07	SOT143	parallel pair	2	77s
BAS70-07W	SOT343	parallel pair	1.8	77s

* Not for new design

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	70	V
Forward current	I_F	70	mA
Non-repetitive peak surge forward current $t \leq$ 10ms	I_{FSM}	100	
Total power dissipation	P_{tot}		mW
BAS70, BAS70-07, $T_S \leq$ 72 °C		250	
BAS70-02L, $T_S \leq$ 117 °C		250	
BAS70-02W, -02V, $T_S \leq$ 107 °C		250	
BAS70-04, BAS70-06, $T_S \leq$ 48 °C		250	
BAS70-04S/W/-06W, BAS170W, $T_S \leq$ 97 °C		250	
BAS70-05, $T_S \leq$ 22 °C		250	
BAS70-05W, $T_S \leq$ 90 °C		250	
BAS70-07W, $T_S \leq$ 114 °C		250	
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
BAS70, BAS70-07		≤ 310	
BAS70-02L		≤ 130	
BAS70-02W, -02V		≤ 170	
BAS70-04, BAS70-06		≤ 410	
BAS70-04S/W, BAS70-06W		≤ 210	
BAS70-05		≤ 510	
BAS70-05W		≤ 240	
BAS70-07W		≤ 145	
BAS170W		≤ 190	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)}$ = 10 µA	$V_{(BR)}$	70	-	-	V
Reverse current V_R = 50 V	I_R	-	-	0.1	µA
Forward voltage	V_F				mV
I_F = 1 mA		300	375	410	
I_F = 10 mA		600	705	750	
I_F = 15 mA		720	880	1000	
Forward voltage matching[2)] I_F = 10 mA	ΔV_F	-	-	20	

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

[2]ΔV_F is the difference between lowest and highest V_F in a multiple diode component.

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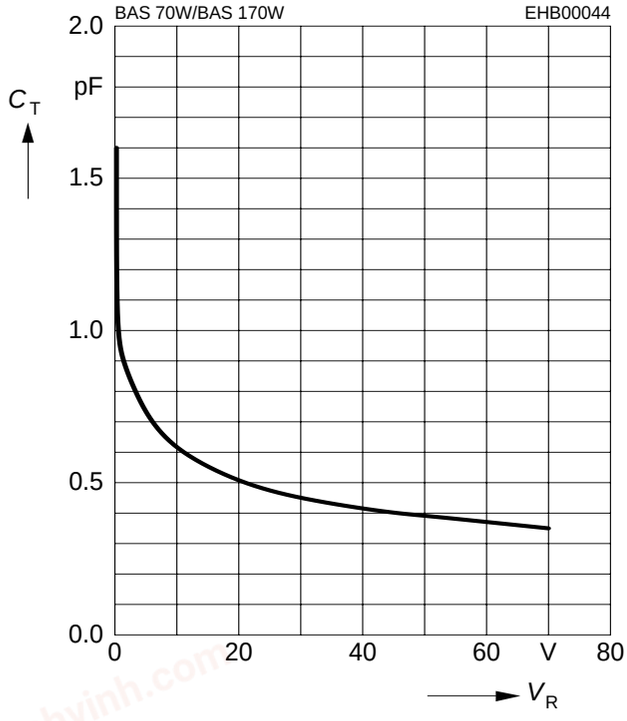
Electrical Characteristics at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance V_R = 0 , f = 1 MHz	C_T	-	1.5	2	pF
Forward resistance I_F = 10 mA, f = 10 kHz	r_f	-	34	-	Ω
Charge carrier life time I_F = 25 mA	τ_{rr}	-	-	100	ps

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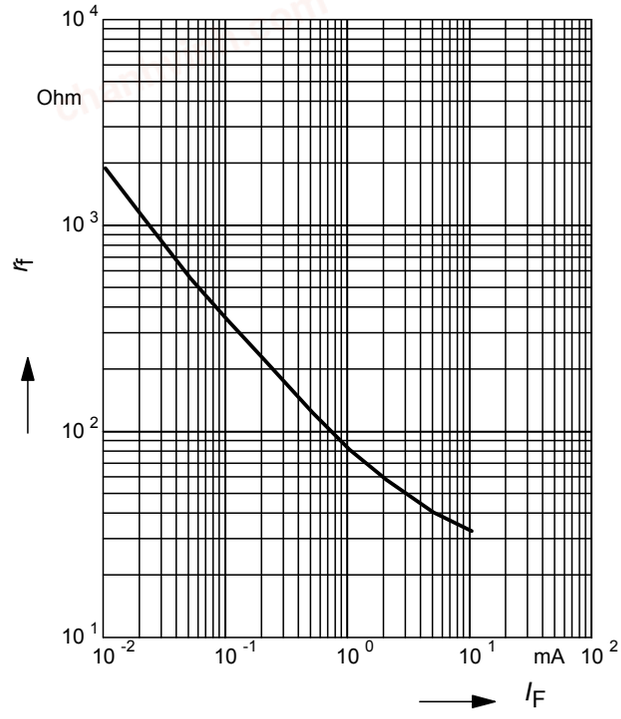
Diode capacitance $C_T = f(V_R)$

f = 1MHz



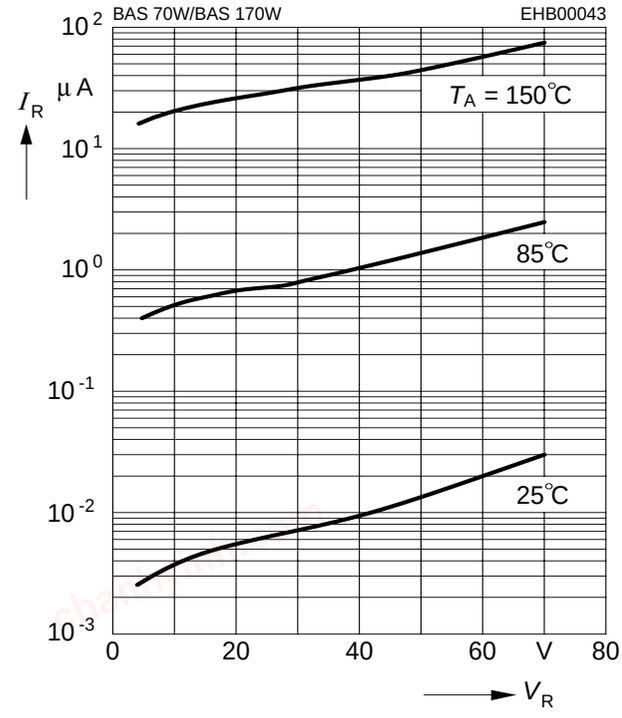
Forward resistance $r_f = f(I_F)$

f = 10 kHz



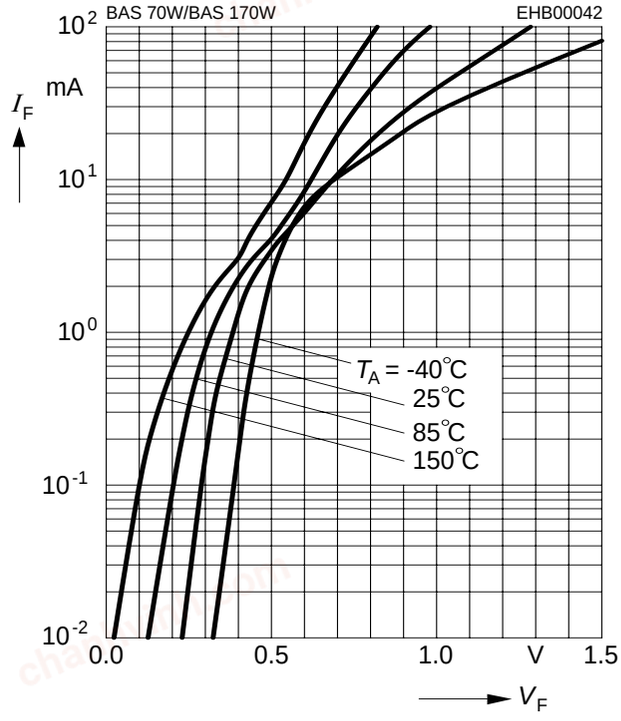
Reverse current $I_R = f(V_R)$

T_A = Parameter



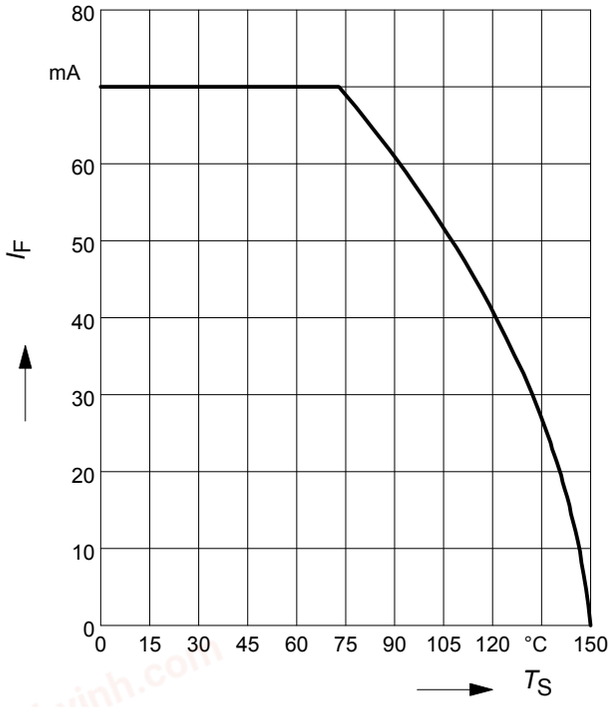
Forward current $I_F = f(V_F)$

T_A = Parameter

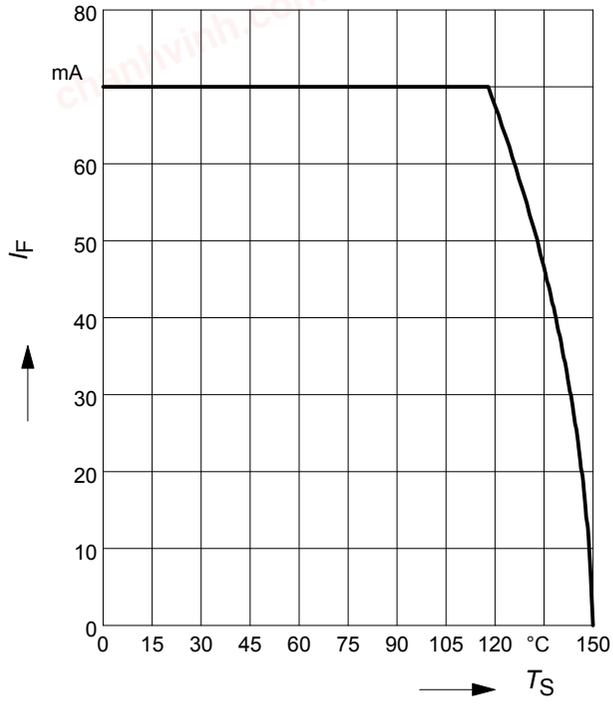


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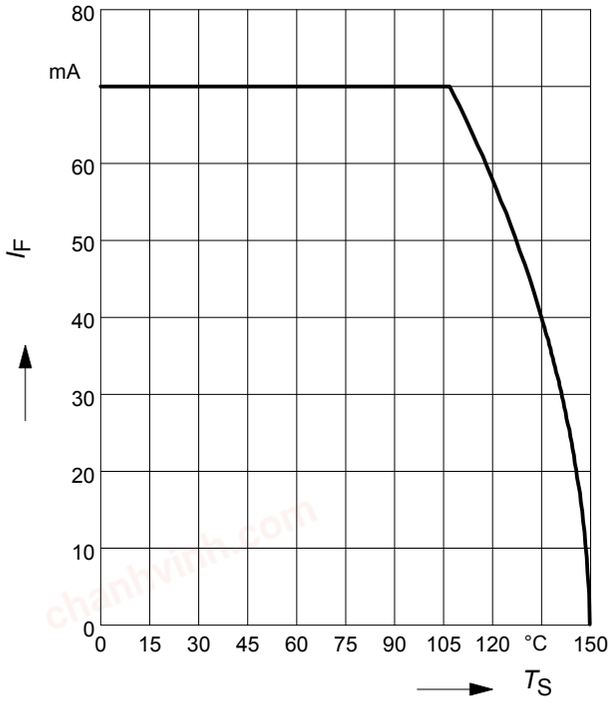
Forward current $I_F = f(T_S)$
BAS70, BAS70-07



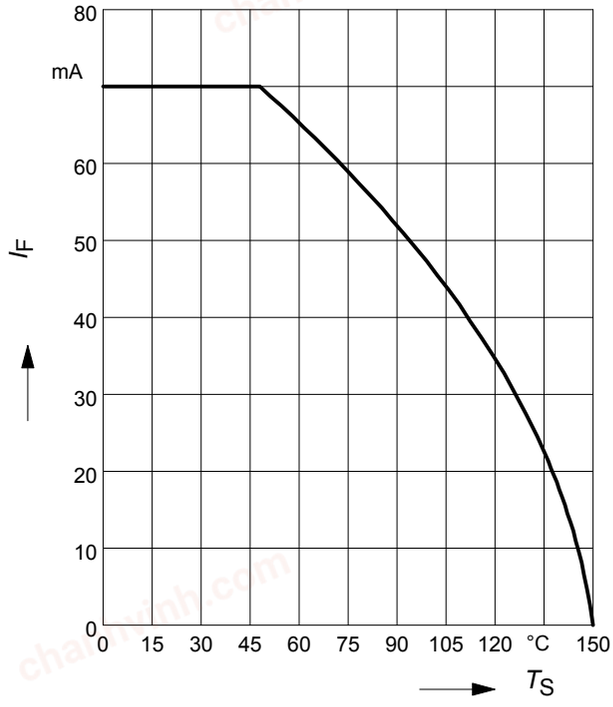
Forward current $I_F = f(T_S)$
BAS70-02L



Forward current $I_F = f(T_S)$
BAS70-02W, -02V

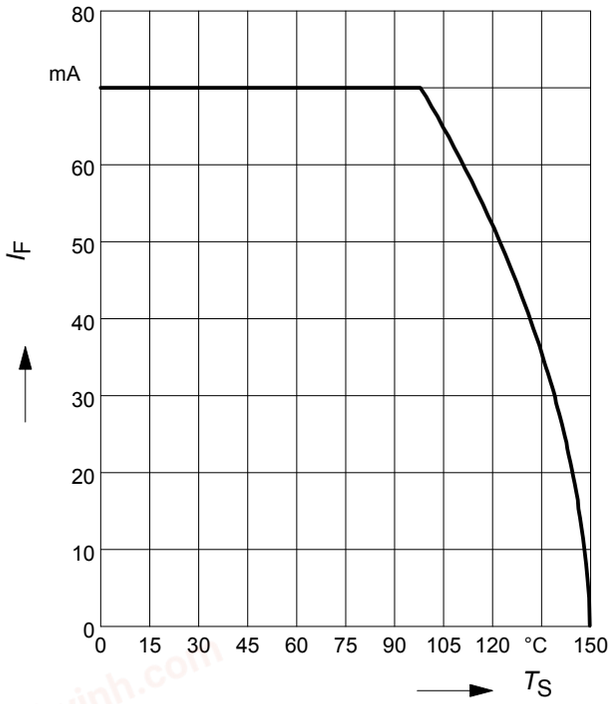


Forward current $I_F = f(T_S)$
BAS70-04, BAS70-06

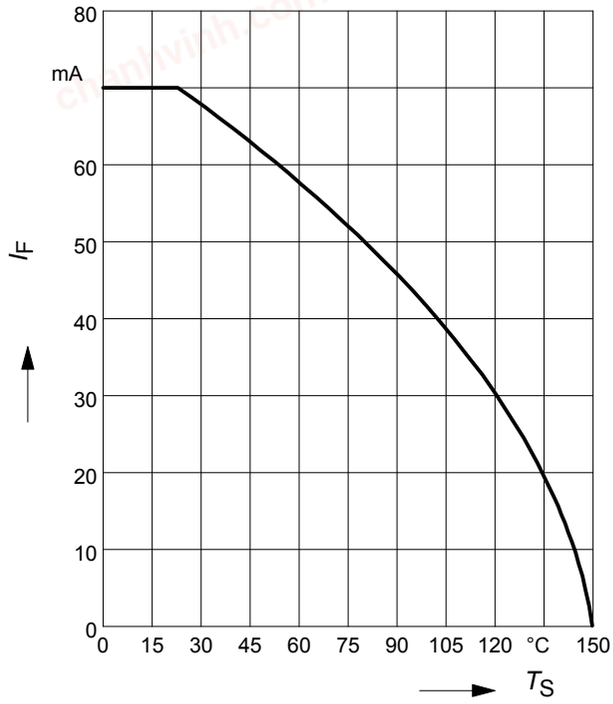


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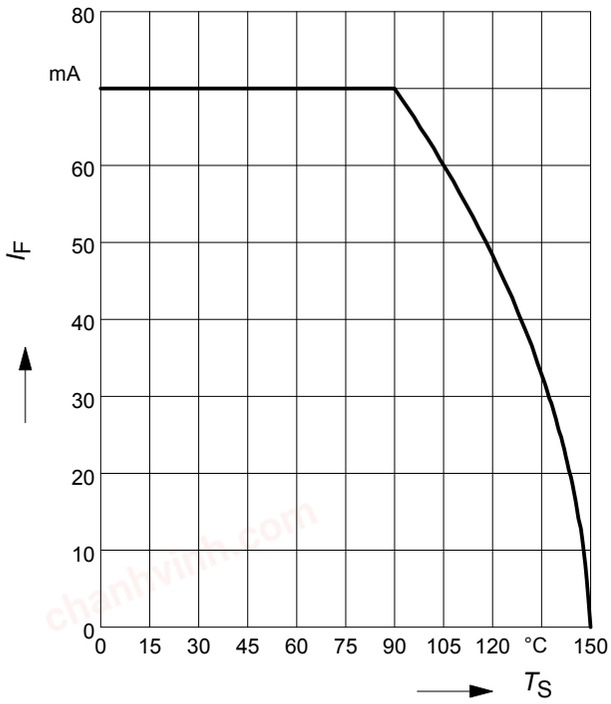
Forward current $I_F = f(T_S)$
BAS70-04S/W, BAS70-06W, BAS170W



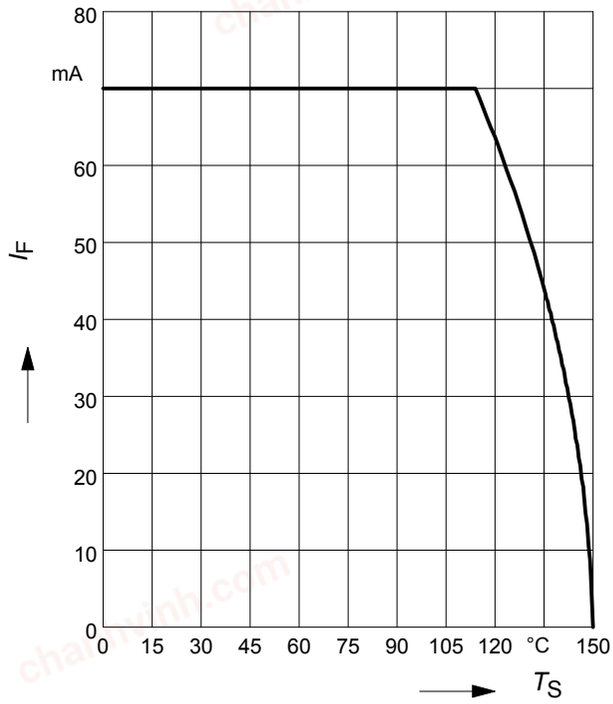
Forward current $I_F = f(T_S)$
BAS70-05



Forward current $I_F = f(T_S)$
BAS70-05W



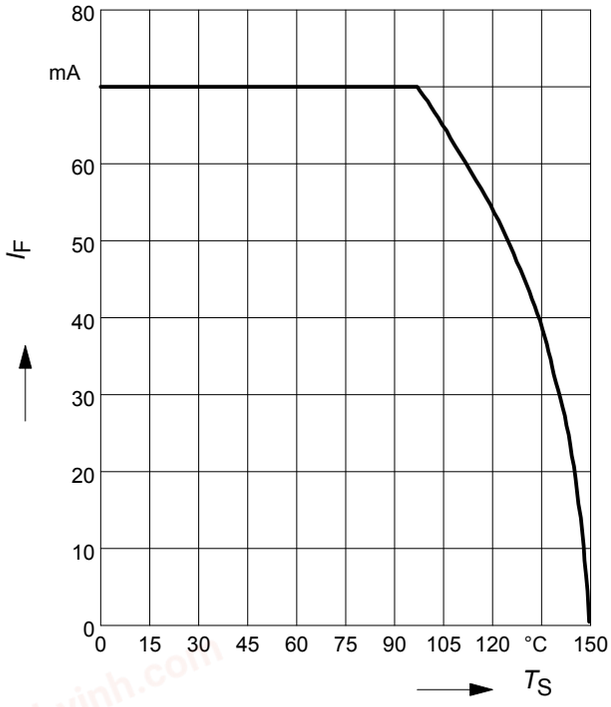
Forward current $I_F = f(T_S)$
BAS70-07W



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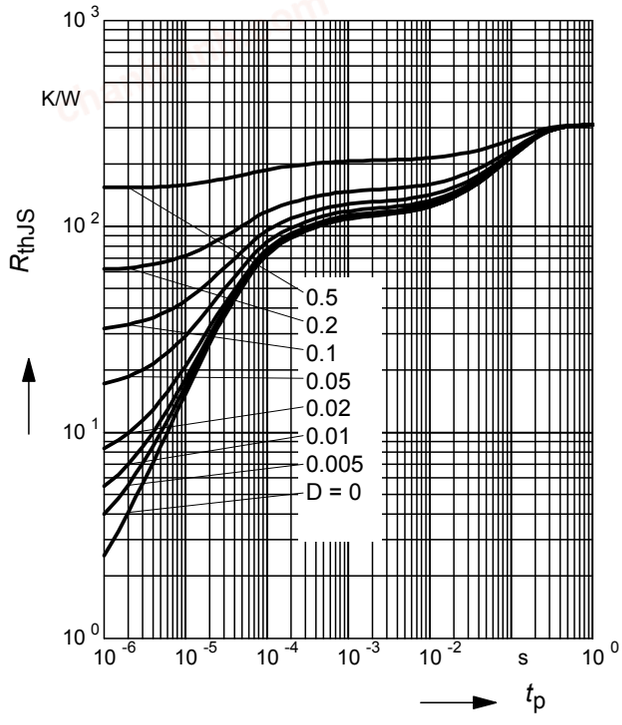
Forward current $I_F = f(T_S)$

BAS170W



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

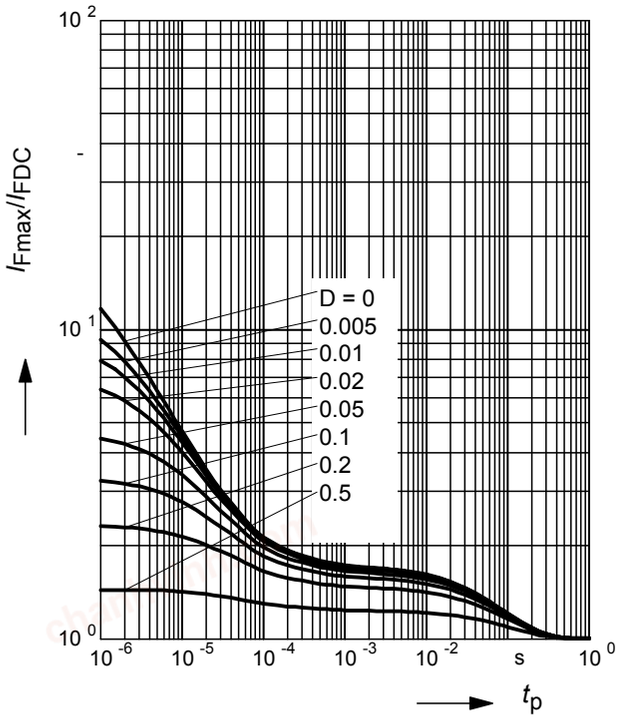
BAS70



Permissible Pulse Load

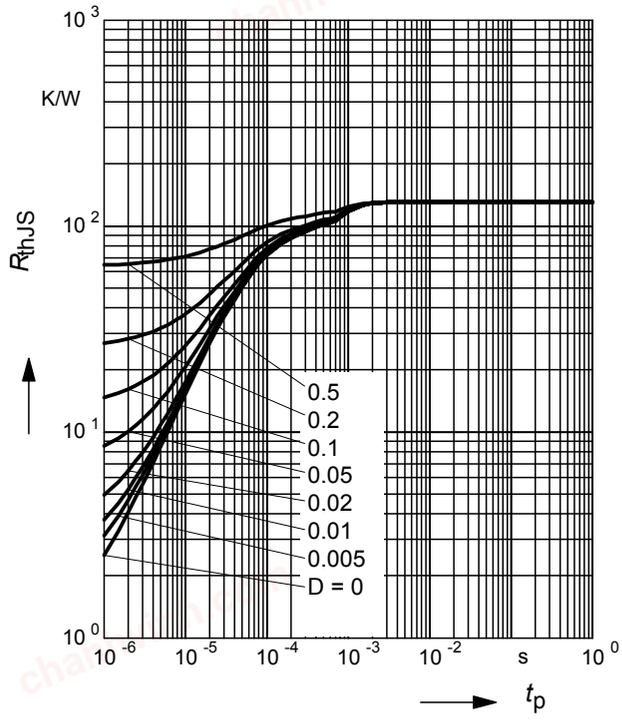
$I_{Fmax}/I_{FDC} = f(t_p)$

BAS70



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

BAS70-02L

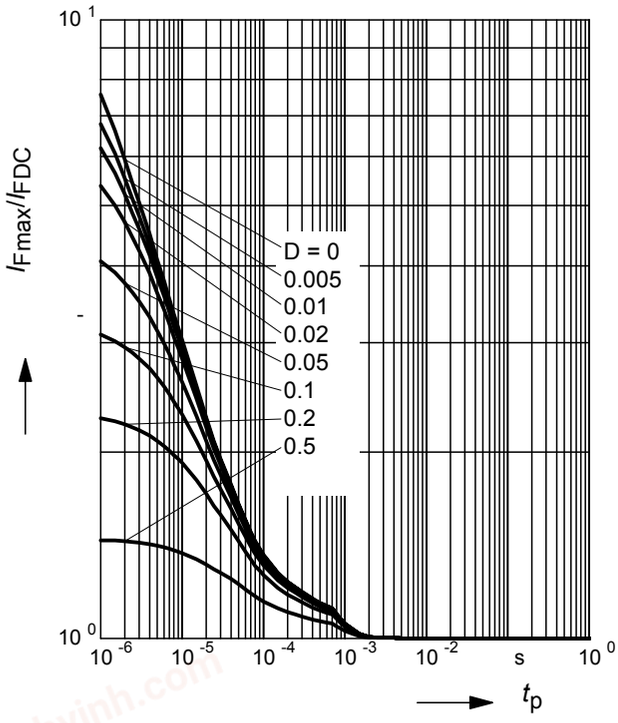


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Permissible Pulse Load

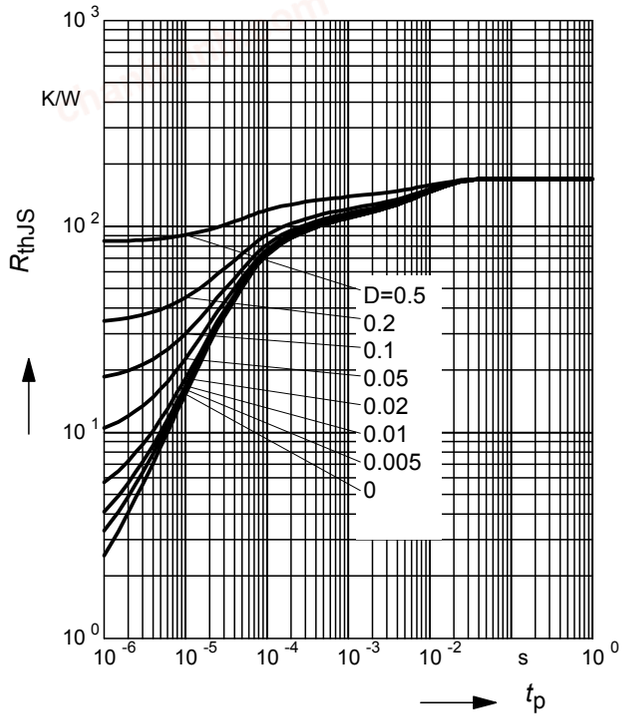
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-02L



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

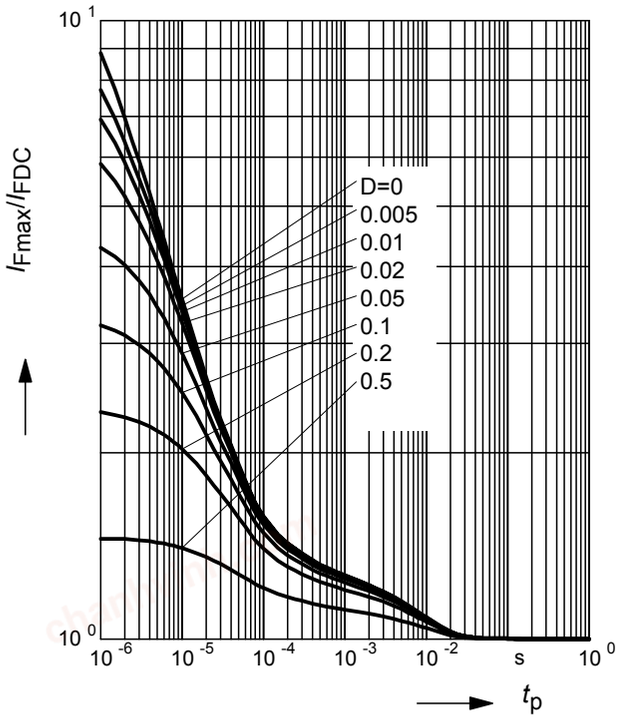
BAS70-02W, -02V



Permissible Pulse Load

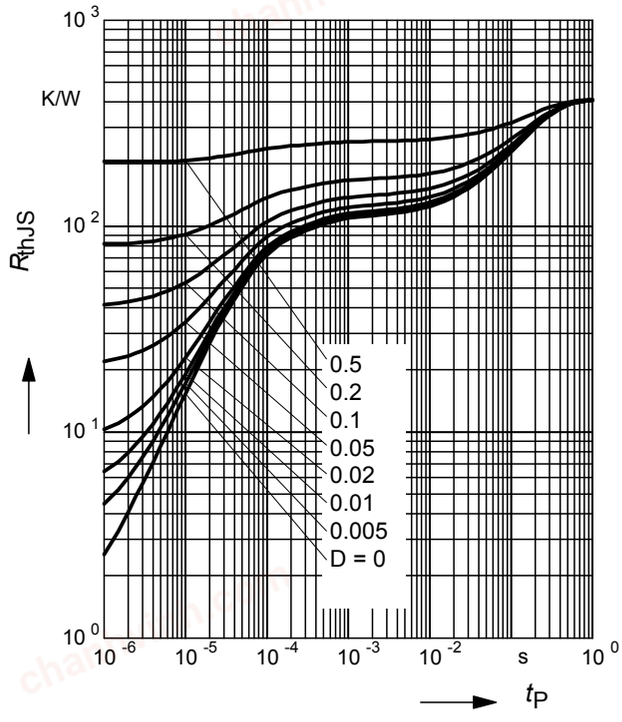
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-02W, -02V



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

BAS70-04, BAS70-06

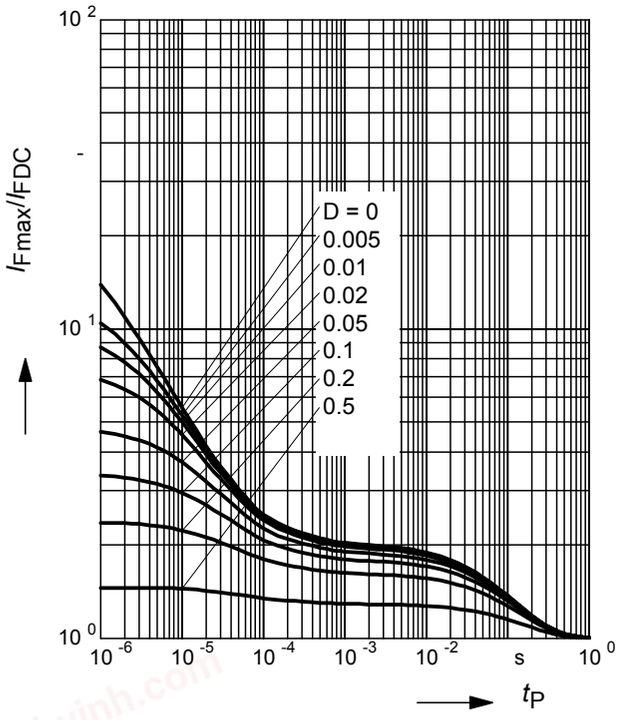


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Permissible Pulse Load

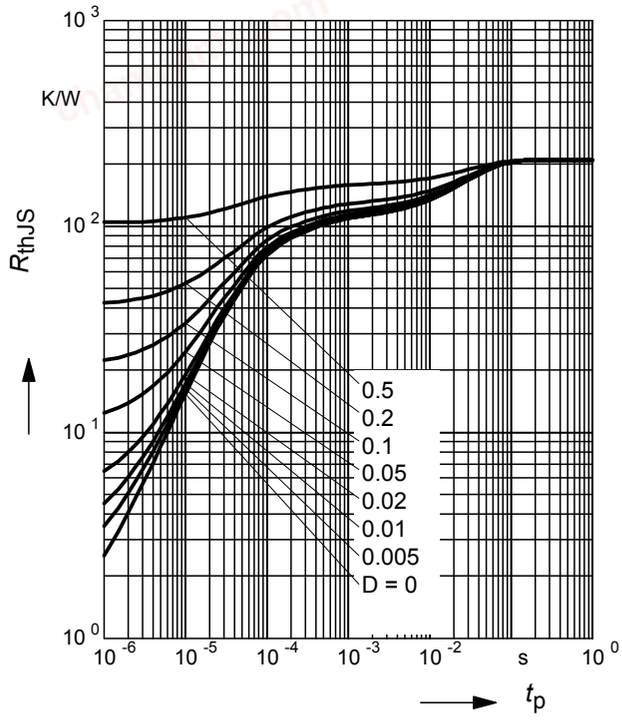
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-04, BAS70-06



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

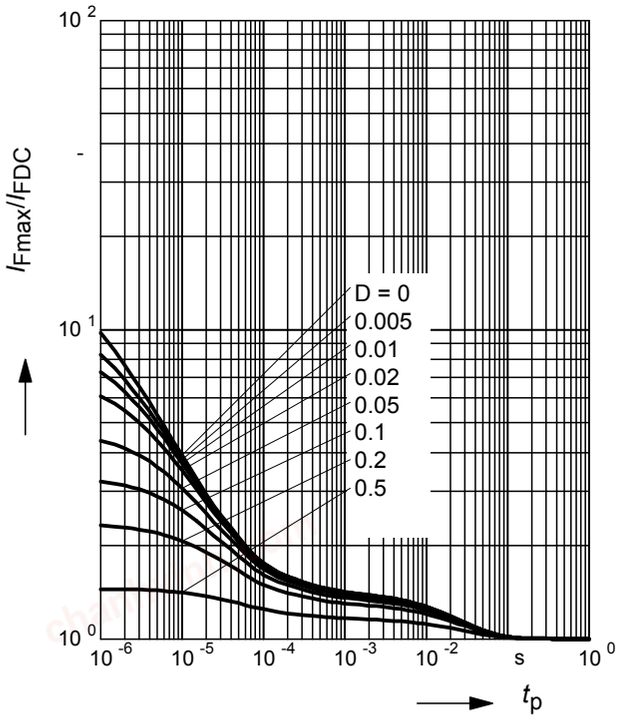
BAS70-04S



Permissible Pulse Load

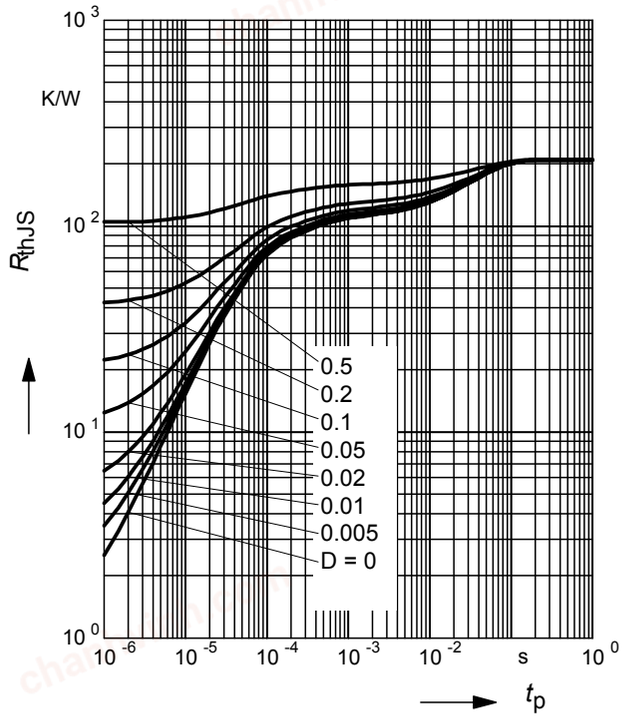
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-04S



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

BAS70-04W, BAS70-06W

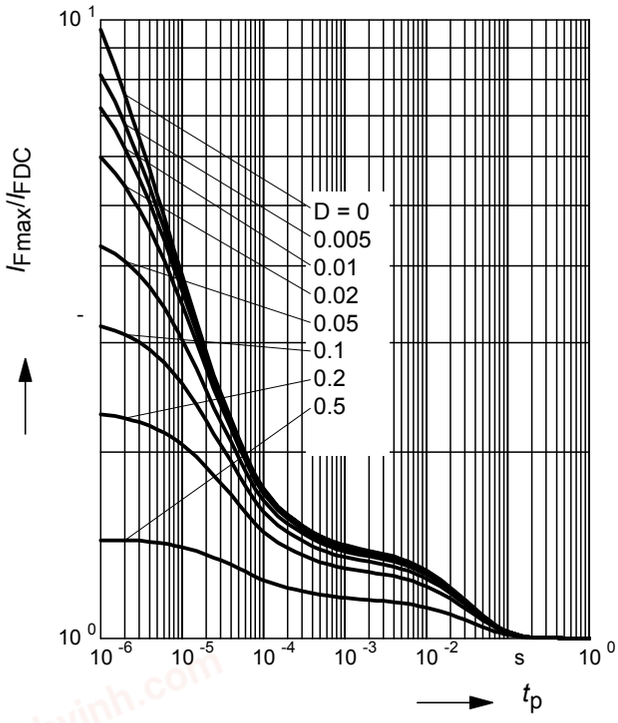


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Permissible Pulse Load

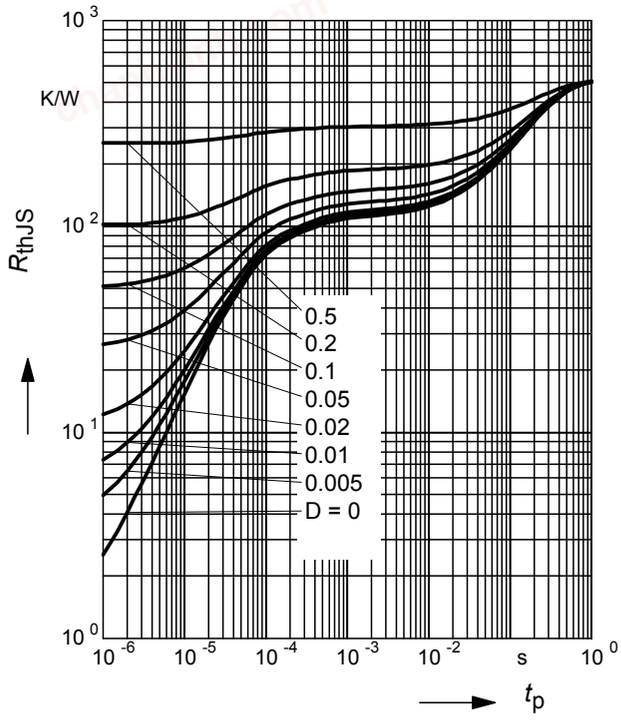
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-04W, BAS70-06W



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

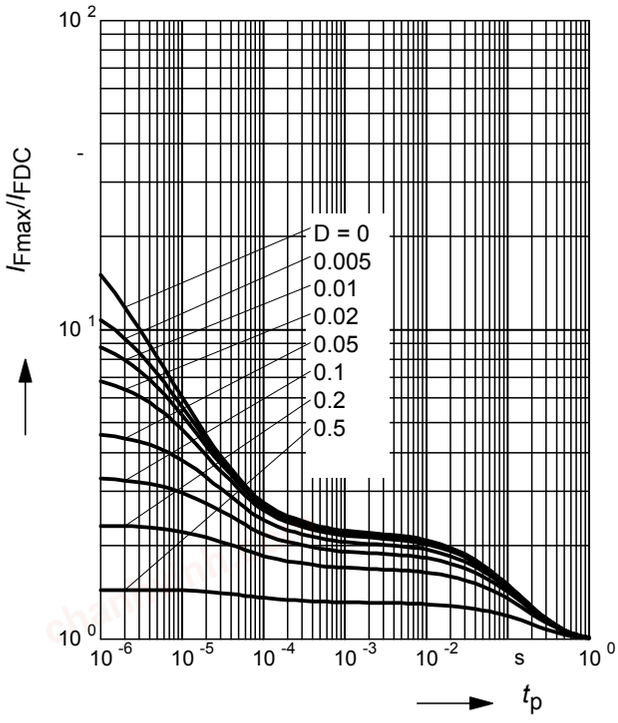
BAS70-05



Permissible Pulse Load

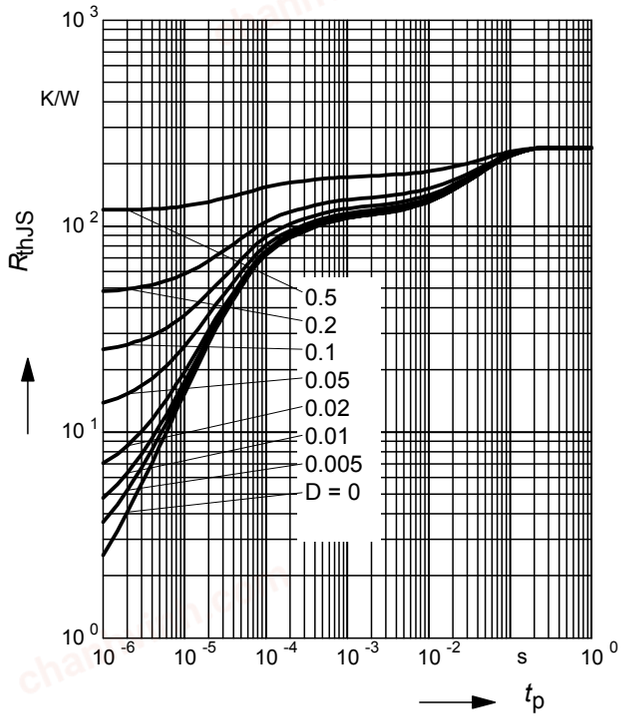
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-05



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

BAS70-05W

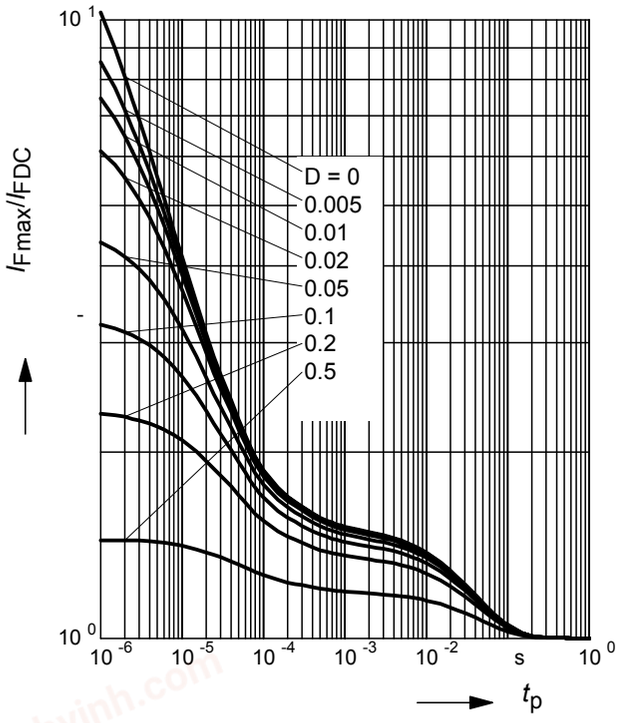


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Permissible Pulse Load

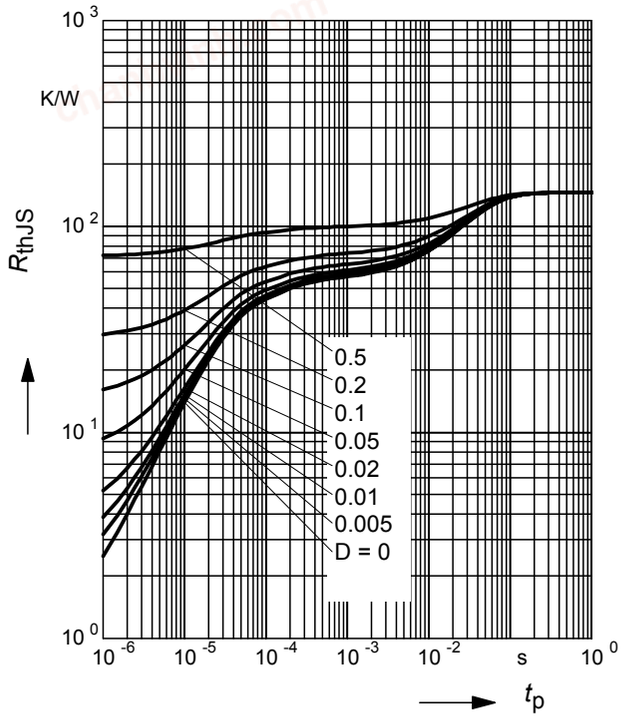
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-05W



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

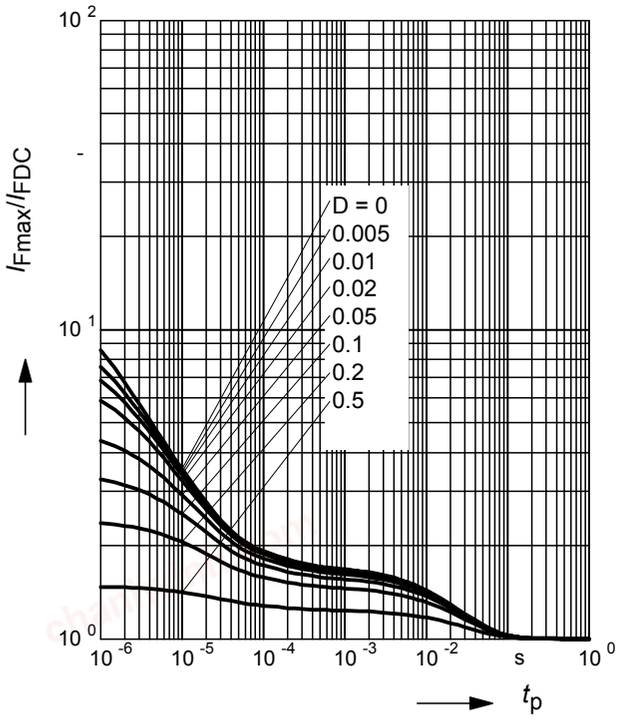
BAS70-07W



Permissible Pulse Load

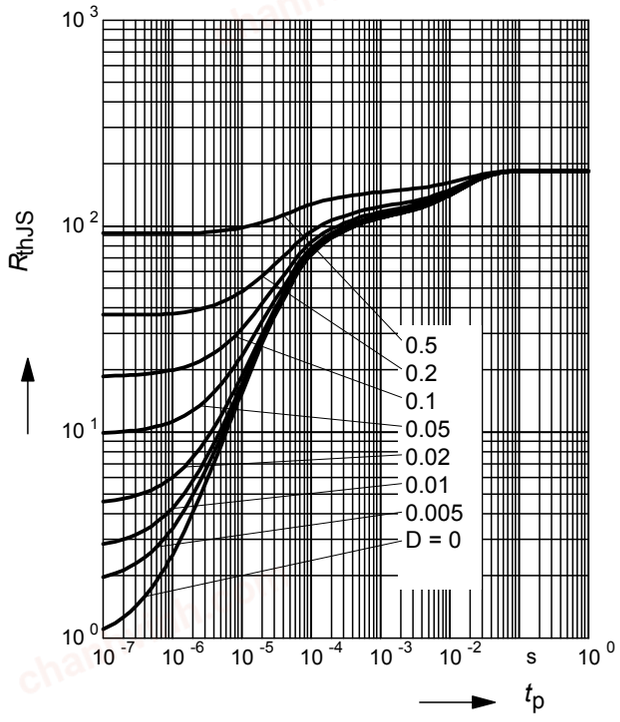
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS70-07W



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

BAS170W

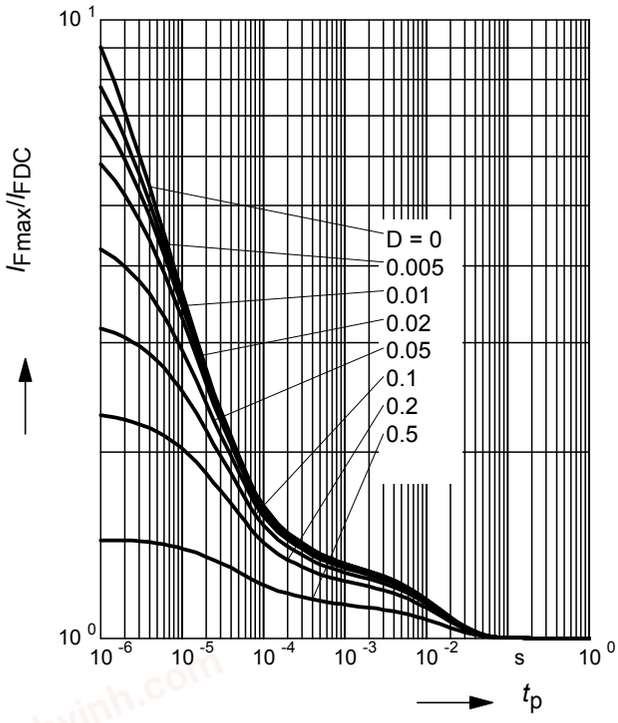


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Permissible Pulse Load

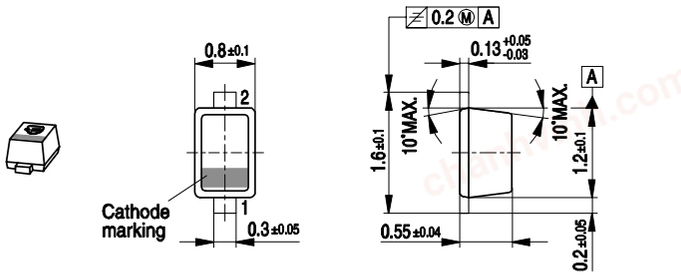
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAS170W

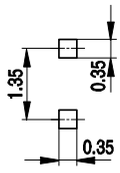


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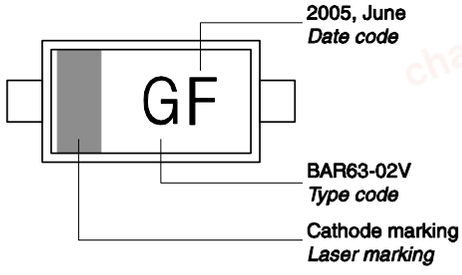
Package Outline



Foot Print

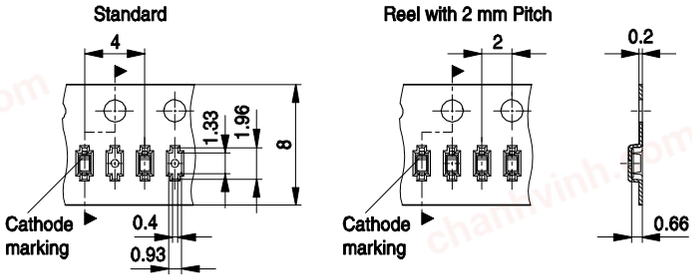


Marking Layout (Example)



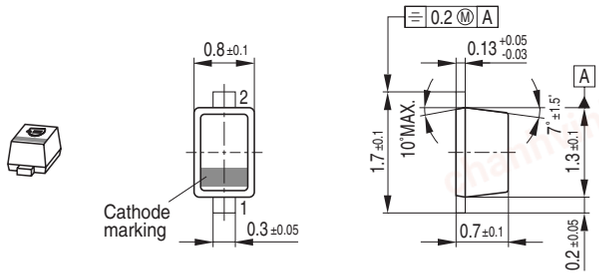
Standard Packing

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

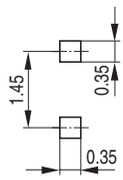


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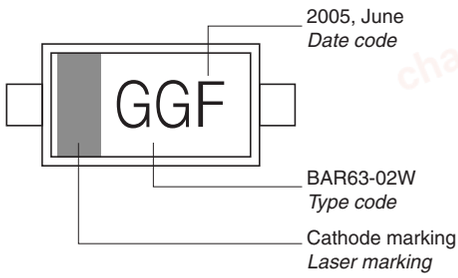
Package Outline



Foot Print

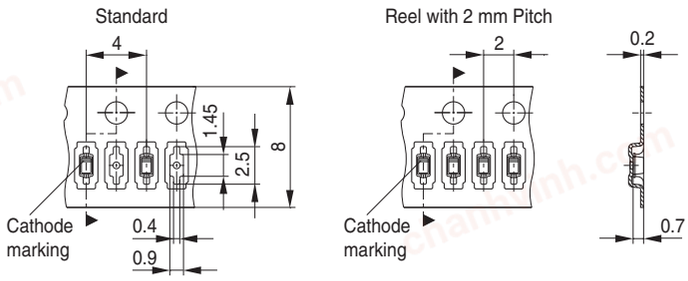


Marking Layout (Example)



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



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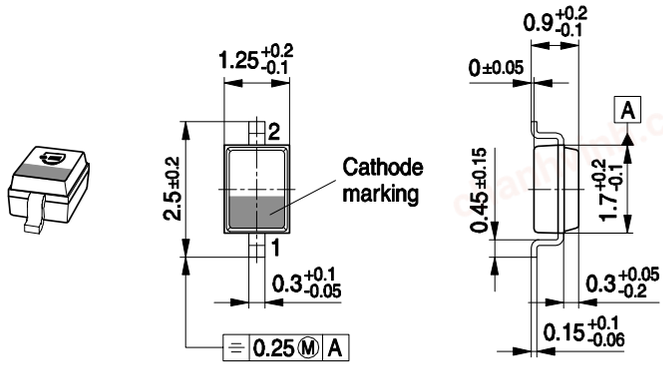
Date Code marking for discrete packages with one digit (SCD80, SC79, SC75[1)]) CES-Code

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

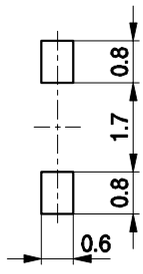
1) New Marking Layout for SC75, implemented at October 2005.

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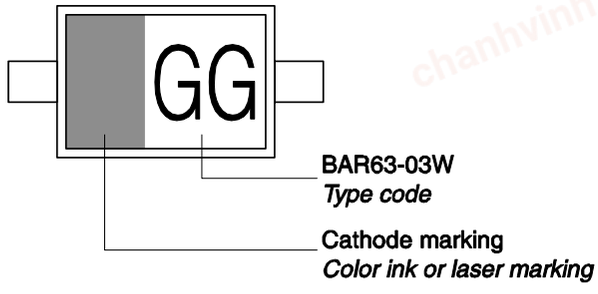
Package Outline



Foot Print

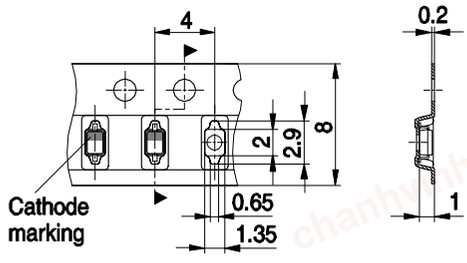


Marking Layout (Example)



Standard Packing

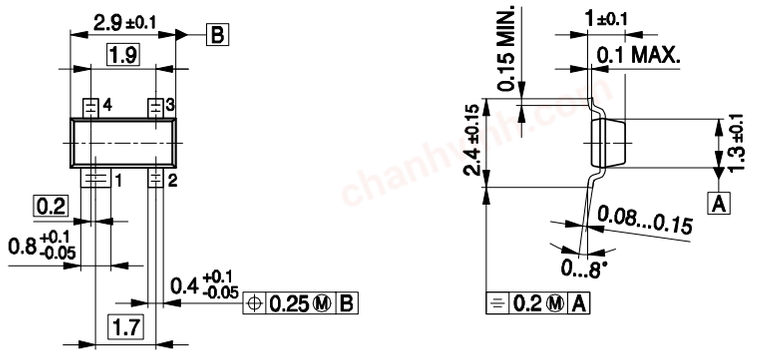
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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Package Outline

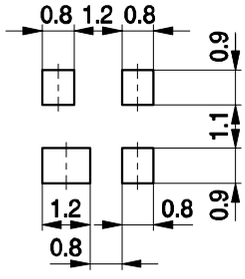




Note: Mold flash, protrusions or gate burrs of 0,2 mm max. per side are not included

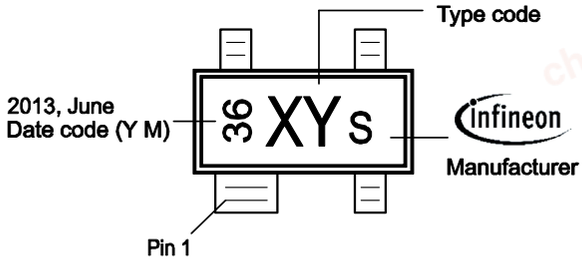
SOT143-PO V09

Foot Print



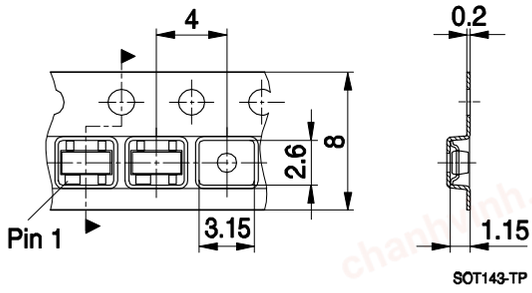
SOT143-FPR V09

Marking Layout (Example)



Standard Packing

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

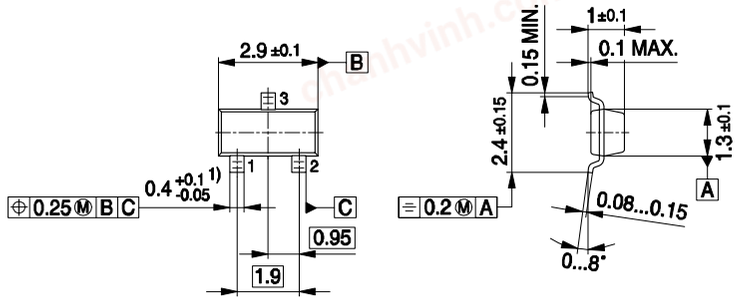


SOT143-TP

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Package Outline

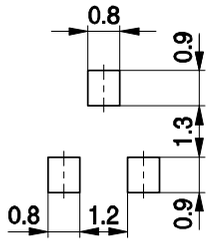




1) Lead width can be 0.6 max. in dambar area

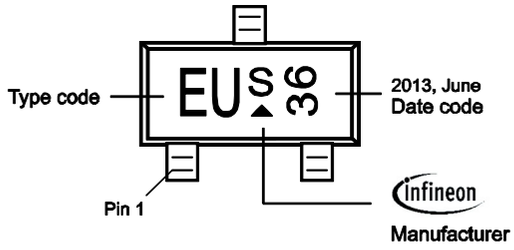
SOT23-PO V08

Foot Print



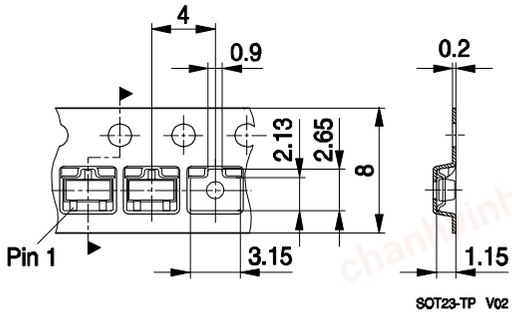
SOT23-FPR V08

Marking Layout



Standard Packing

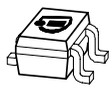
Reel o 180 mm: 3.000 Pieces / Reel
Reel o 330 mm = 10.000 Pieces / Reel

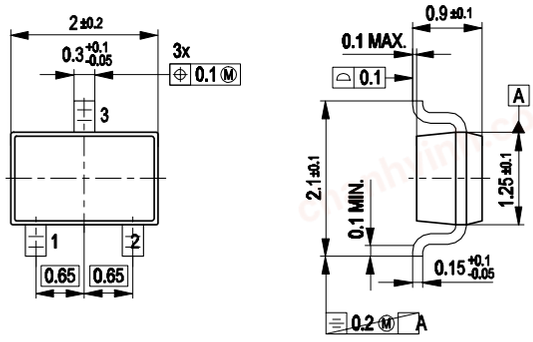


SOT23-TP V02

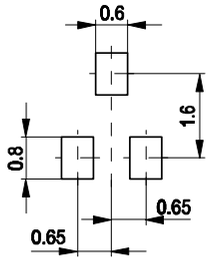
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Package Outline

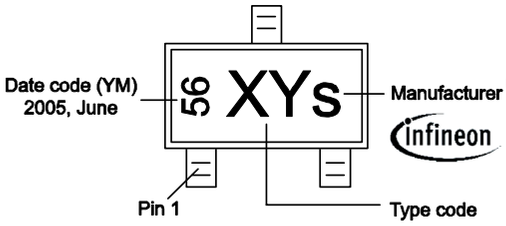




Foot Print

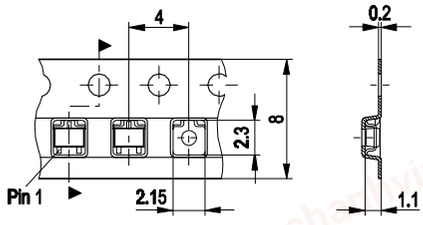


Marking Layout (Example)



Standard Packing

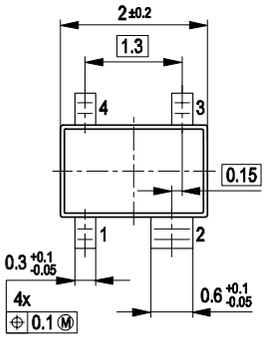
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

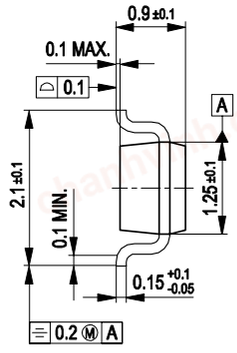


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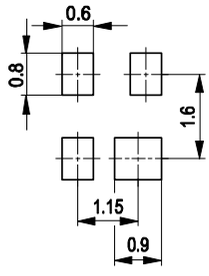
Package Outline



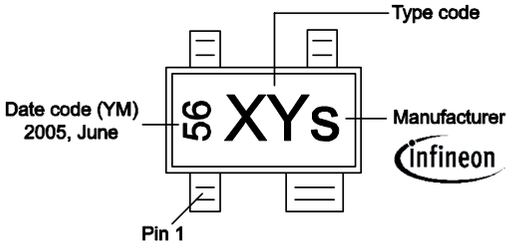




Foot Print

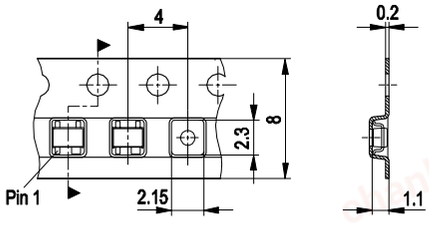


Marking Layout (Example)



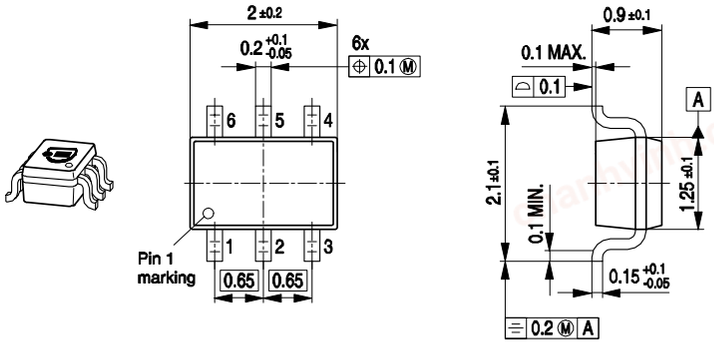
Standard Packing

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

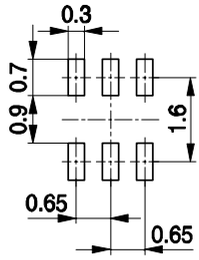


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Package Outline

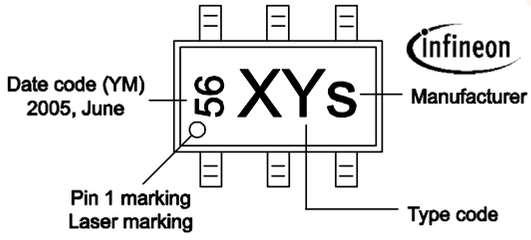


Foot Print



Marking Layout (Example)

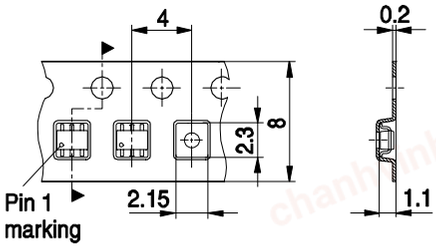
Small variations in positioning of
Date code, Type code and Manufacture are possible.



Standard Packing

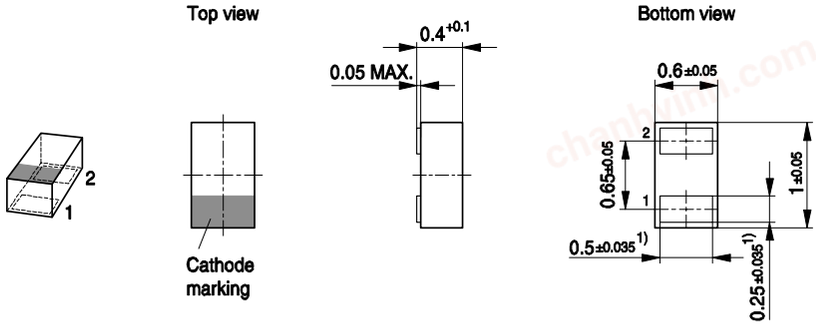
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.



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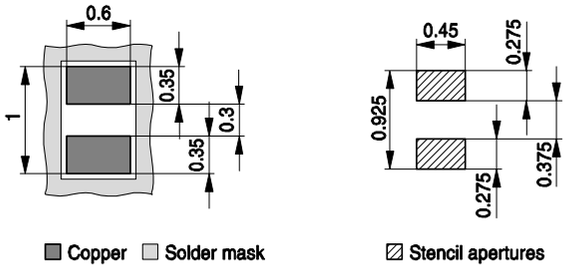
Package Outline



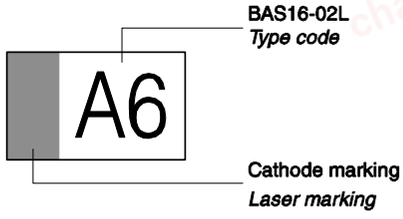
1) Dimension applies to plated terminal

Foot Print

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

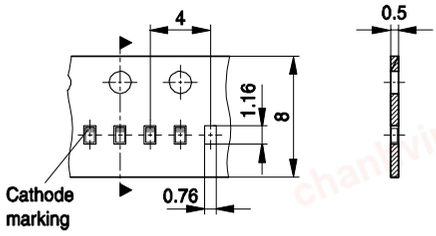


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
Reel ø330 mm = 50.000 Pieces/Reel (optional)



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Edition 2009-11-16

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Infineon Technologies AG
81726 Munich, Germany

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