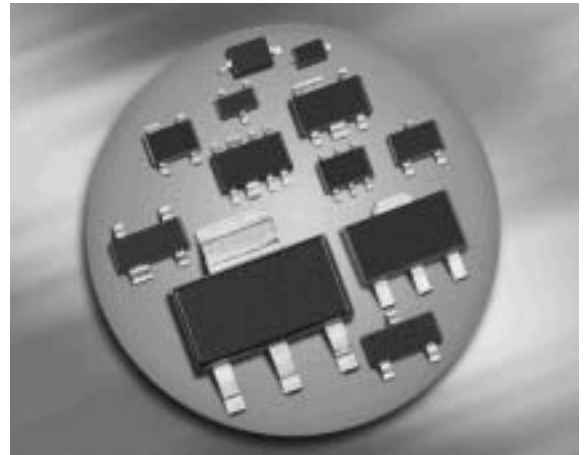
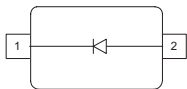


Silicon Schottky Diode

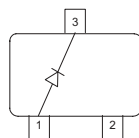
- General-purpose diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing
- BAS70-04S: For orientation in reel see package information below



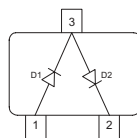
BAS170W
BAS70-02L
BAS70-02W



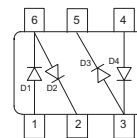
BAS70



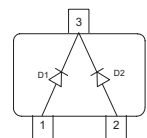
BAS70-04
BAS70-04W



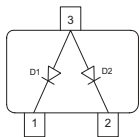
BAS70-04S



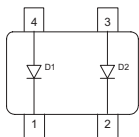
BAS70-05
BAS70-05W



BAS70-06
BAS70-06W



BAS70-07
BAS70-07W
BAS70-07L4



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
BAS70-02W	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
BAS70-07L4	TSLP-4-4	parallel pair, leadless	0.4	E
BAS70-07W	SOT343	parallel pair	1.8	77s

Maximum Ratings at $T_A = 25^\circ\text{C}$, 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 $t \leq 10\text{ms}$	I_{FSM}	100	
Total power dissipation BAS70, BAS70-07, $T_S \leq 72^\circ\text{C}$ BAS70-02L, BAS70-07L4, $T_S \leq 117^\circ\text{C}$ BAS70-02W, $T_S \leq 107^\circ\text{C}$ BAS70-04, BAS70-06, $T_S \leq 48^\circ\text{C}$ BAS70-04S/W/-06W, BAS170W, $T_S \leq 97^\circ\text{C}$ BAS70-05, $T_S \leq 22^\circ\text{C}$ BAS70-05W, $T_S \leq 90^\circ\text{C}$ BAS70-07W, $T_S \leq 114^\circ\text{C}$	P_{tot}	250 250 250 250 250 250 250 250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾ BAS70, BAS70-07 BAS70-02L, BAS70-07L4 BAS70-02W BAS70-04, BAS70-06 BAS70-04S/W, BAS70-06W BAS70-05 BAS70-05W BAS70-07W BAS170W	R_{thJS}	≤ 310 ≤ 130 ≤ 170 ≤ 410 ≤ 210 ≤ 510 ≤ 240 ≤ 145 ≤ 190	K/W

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

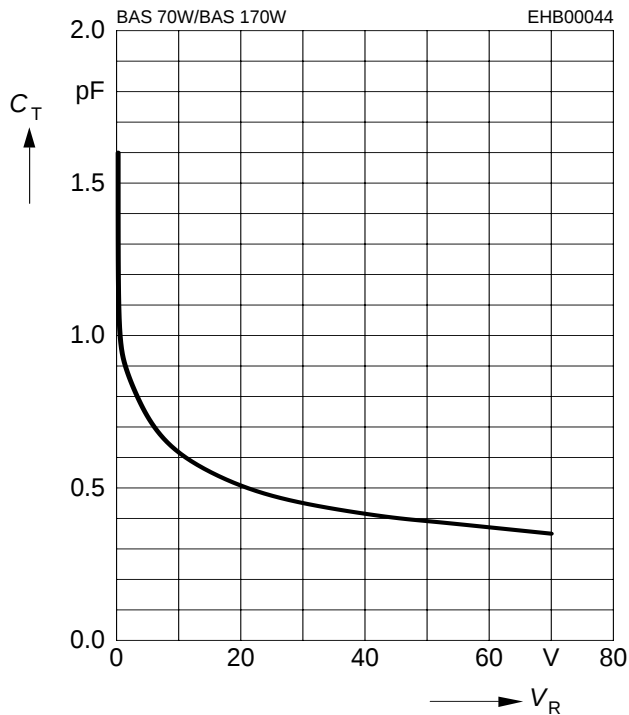
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 10\ \mu\text{A}$	$V_{(BR)}$	70	-	-	V
Reverse current $V_R = 50\ \text{V}$	I_R	-	-	0.1	μA
Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 15\ \text{mA}$	V_F	300 600 720	375 705 880	410 750 1000	mV
Forward voltage matching ¹⁾ $I_F = 10\ \text{mA}$	ΔV_F	-	-	20	
AC Characteristics					
Diode capacitance $V_R = 0$, $f = 1\ \text{MHz}$	C_T	-	1.5	2	pF
Forward resistance $I_F = 10\ \text{mA}$, $f = 10\ \text{kHz}$	r_f	-	34	-	Ω
Charge carrier life time $I_F = 25\ \text{mA}$	τ_{rr}	-	-	100	ps

¹⁾ ΔV_F is the difference between lowest and highest V_F in a multiple diode component.

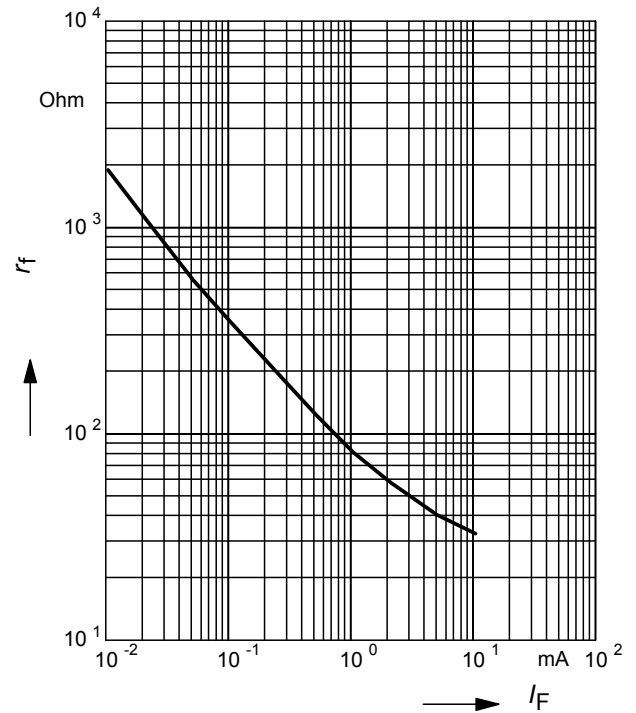
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



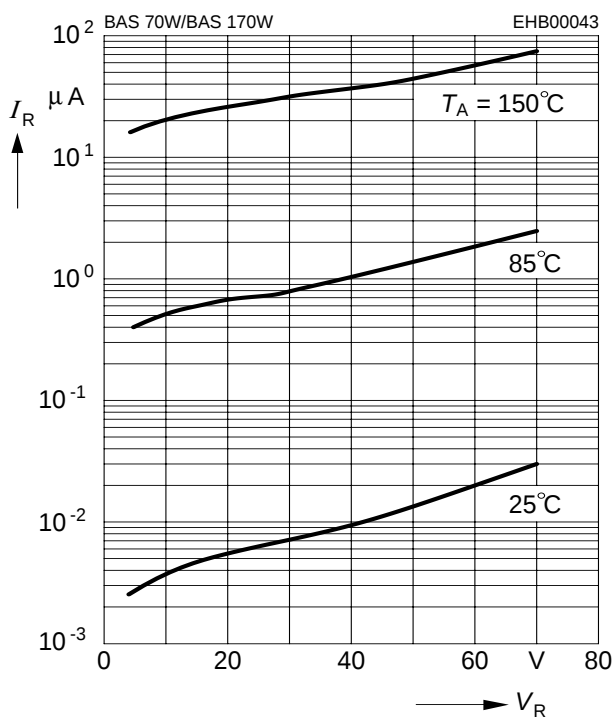
Forward resistance $r_f = f(I_F)$

$f = 10\text{kHz}$



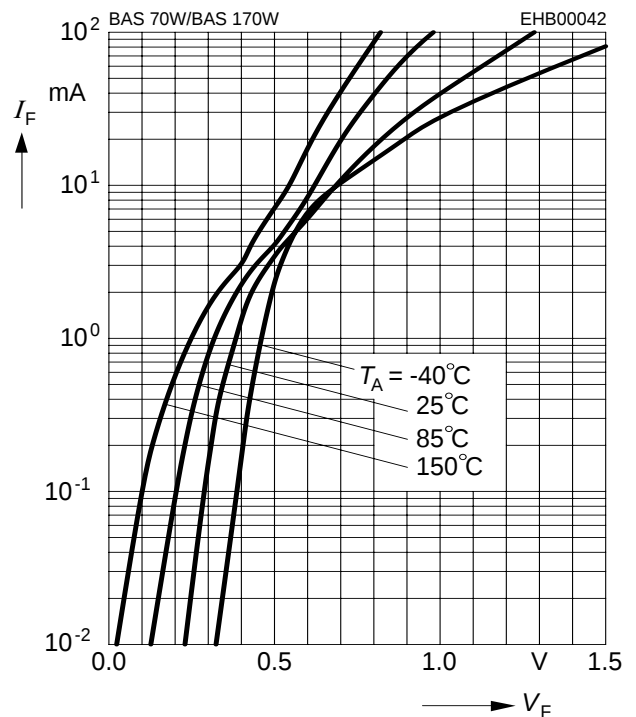
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



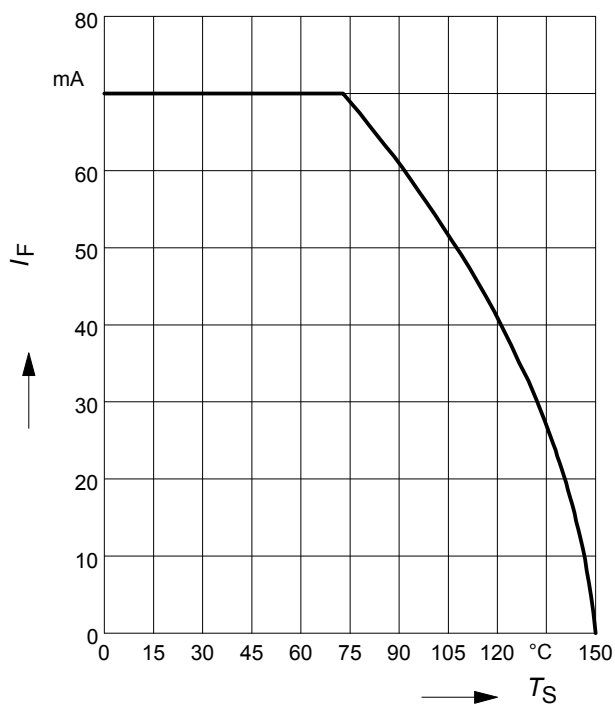
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



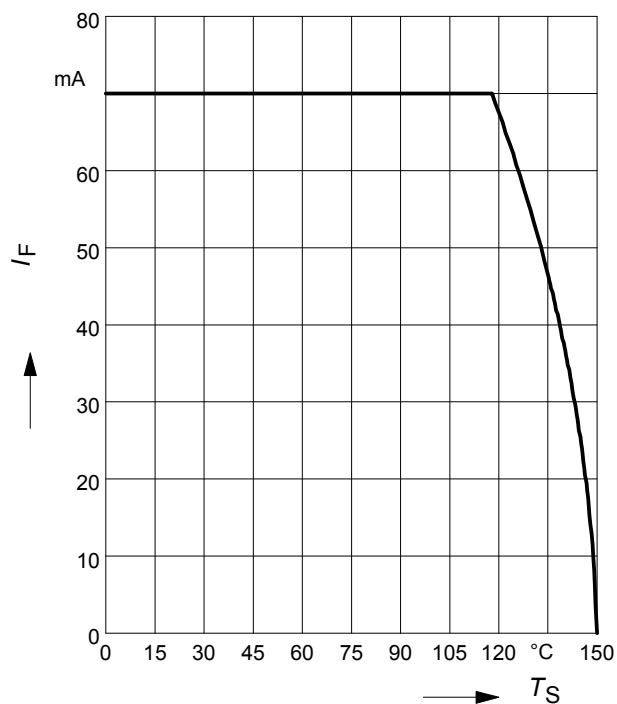
Forward current $I_F = f(T_S)$

BAS70, BAS70-07



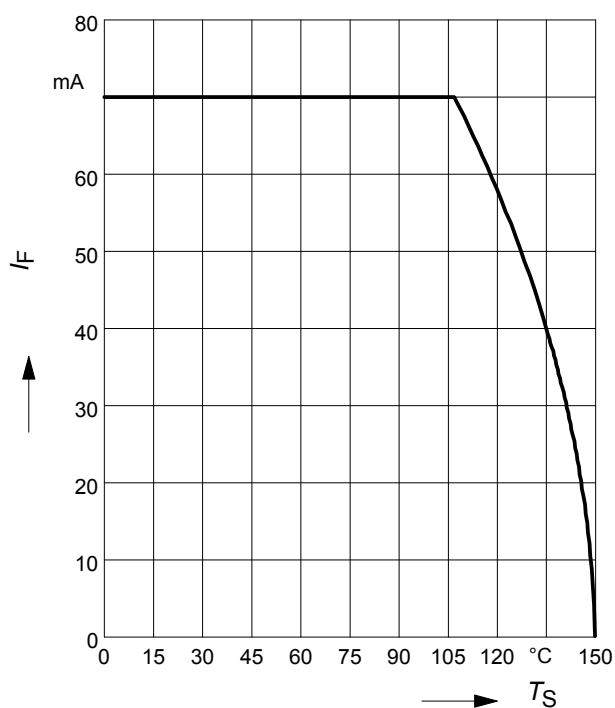
Forward current $I_F = f(T_S)$

BAS70-02L, BAS70-07L4



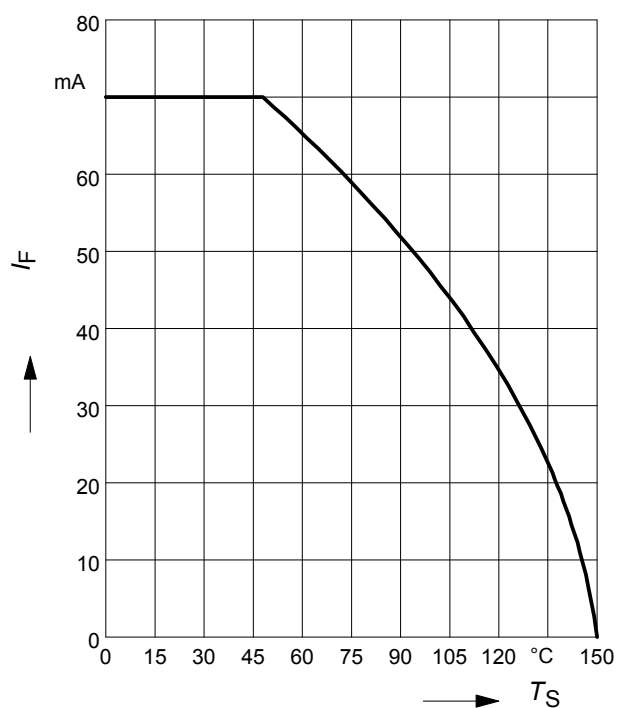
Forward current $I_F = f(T_S)$

BAS70-02W



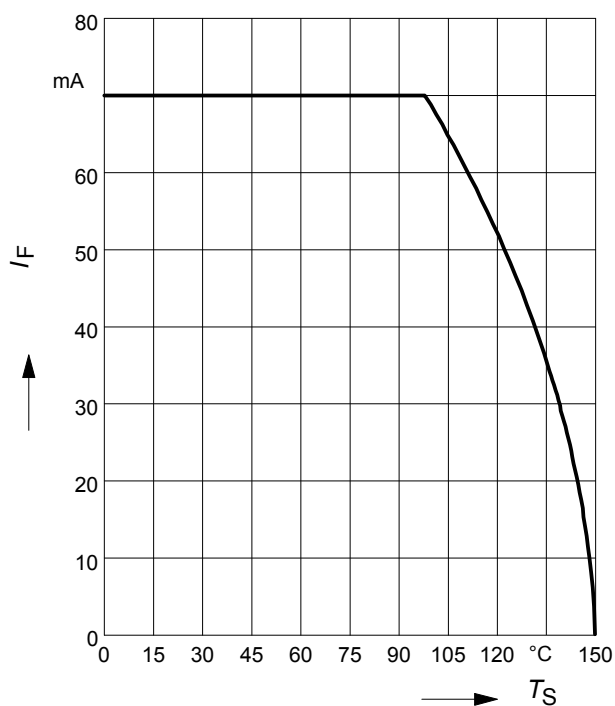
Forward current $I_F = f(T_S)$

BAS70-04, BAS70-06



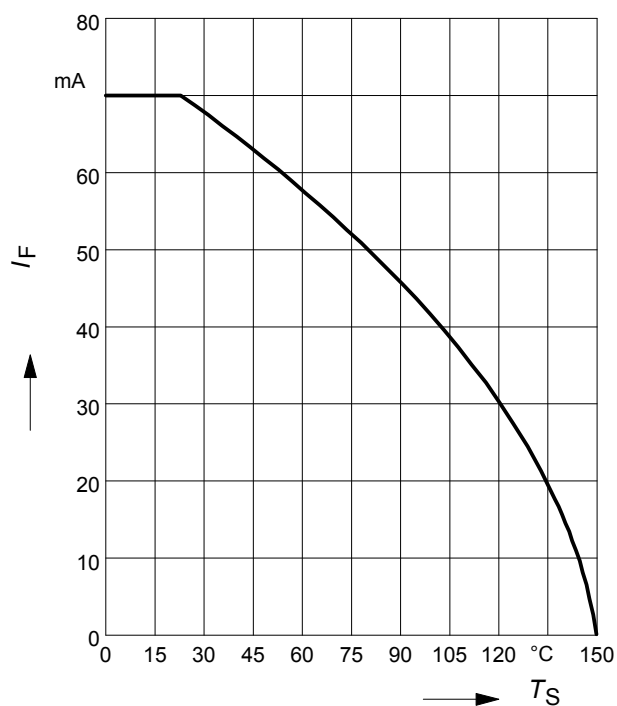
Forward current $I_F = f(T_S)$

BAS70-04S/W, BAS70-06W, BAS170W



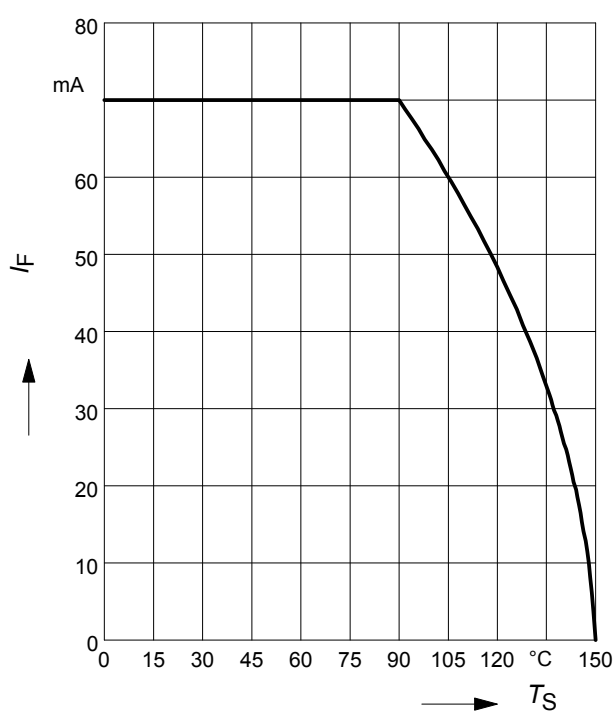
Forward current $I_F = f(T_S)$

BAS70-05



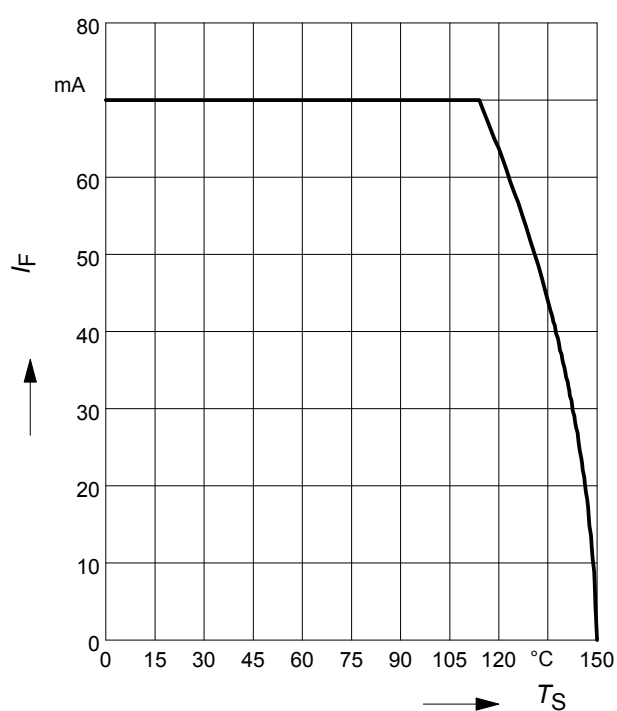
Forward current $I_F = f(T_S)$

BAS70-05W



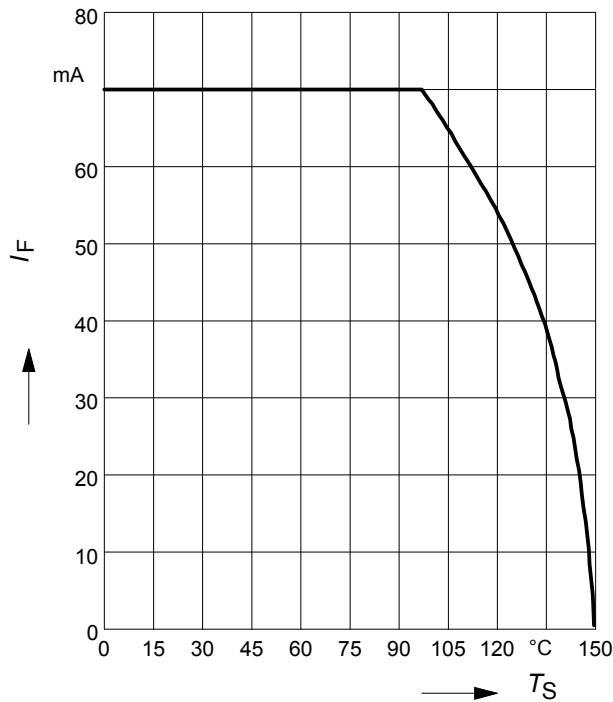
Forward current $I_F = f(T_S)$

BAS70-07W



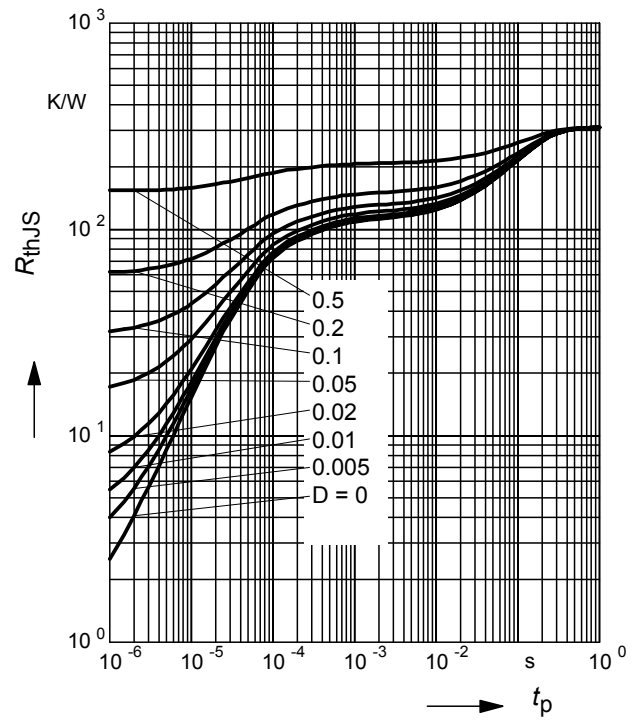
Forward current $I_F = f(T_S)$

BAS170W



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

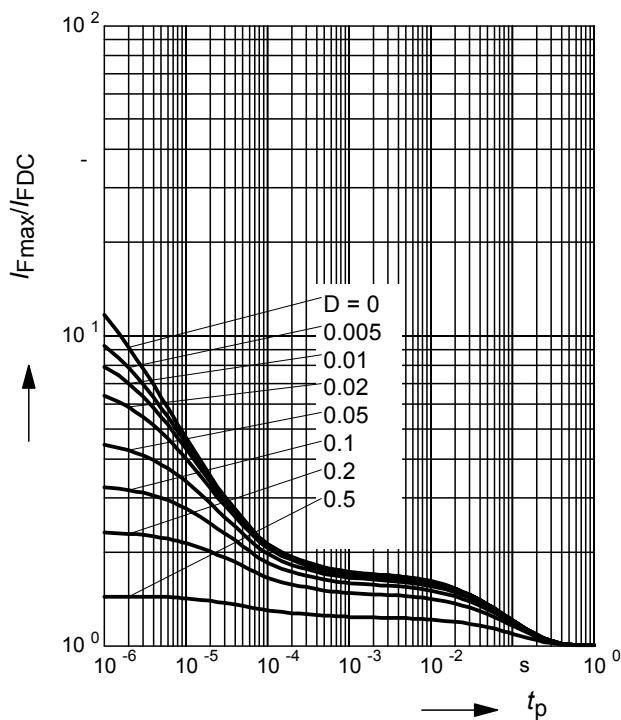
BAS70



Permissible Pulse Load

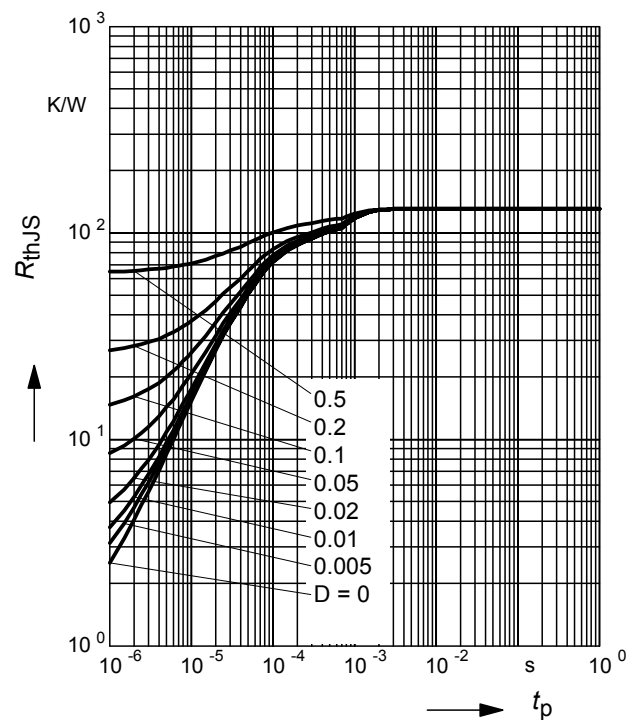
$I_{Fmax}/I_{FDC} = f(t_p)$

BAS70



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

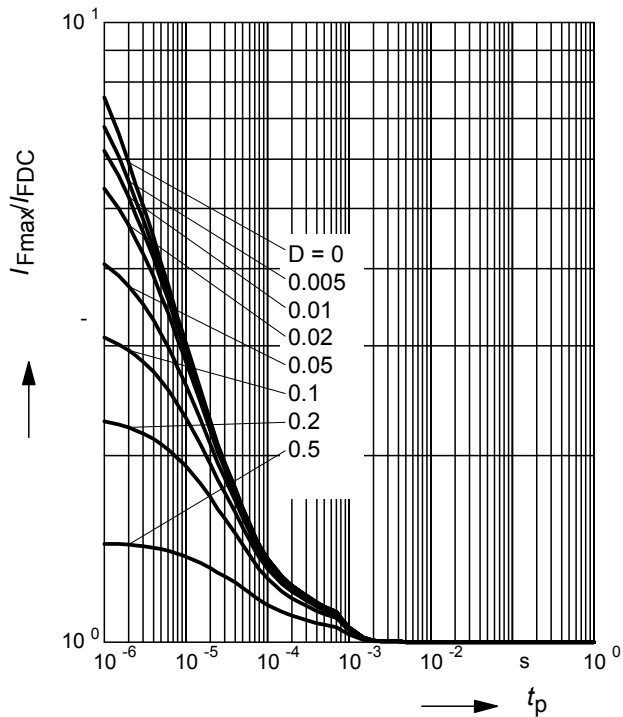
BAS70-02L, BAS70-07L4



Permissible Pulse Load

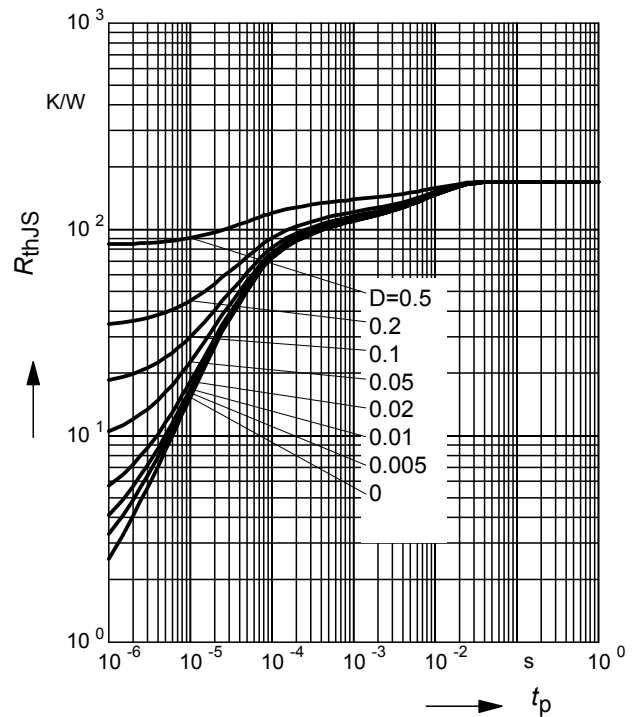
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS70-02L, BAS70-07L4



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

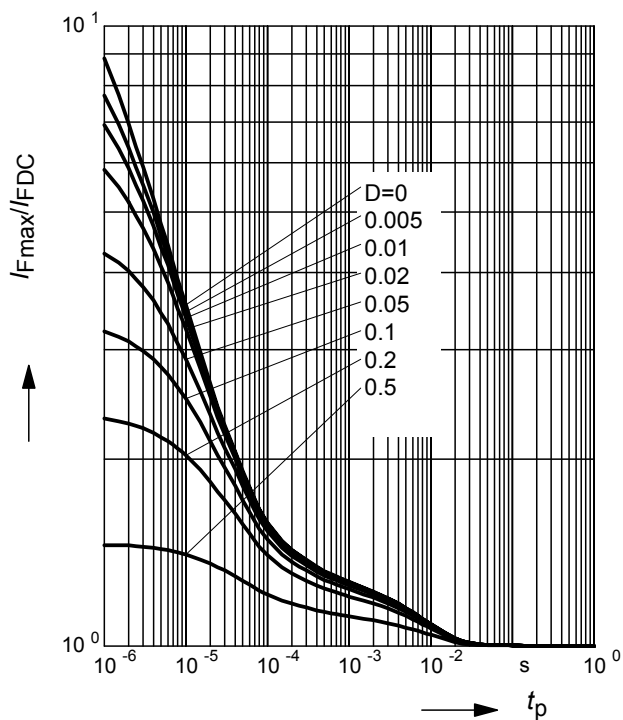
BAS70-02W



Permissible Pulse Load

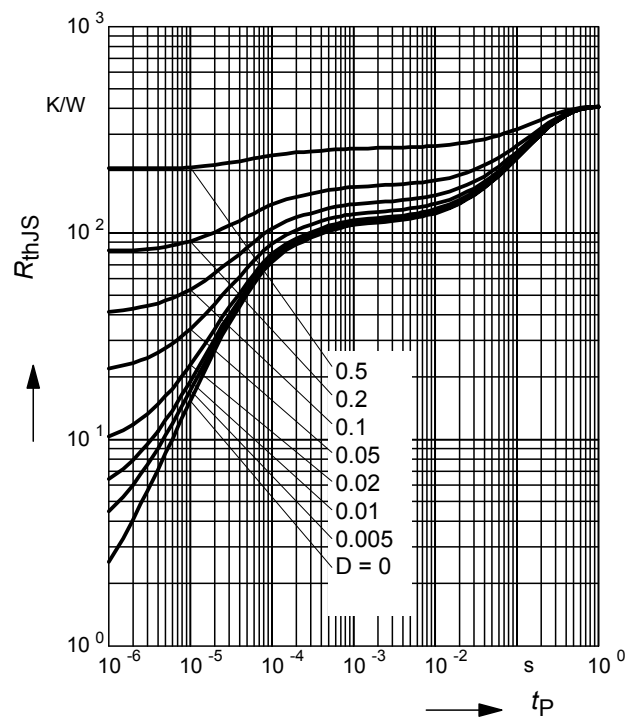
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS70-02W



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

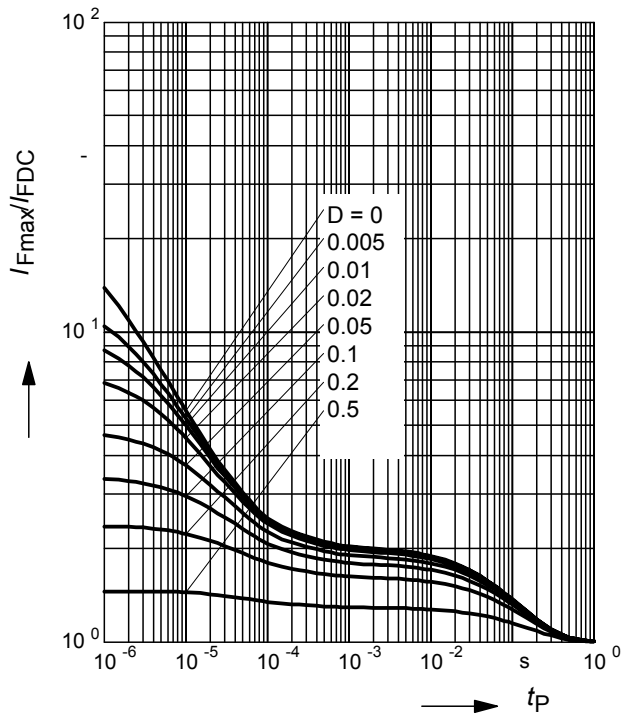
BAS70-04, BAS70-06



Permissible Pulse Load

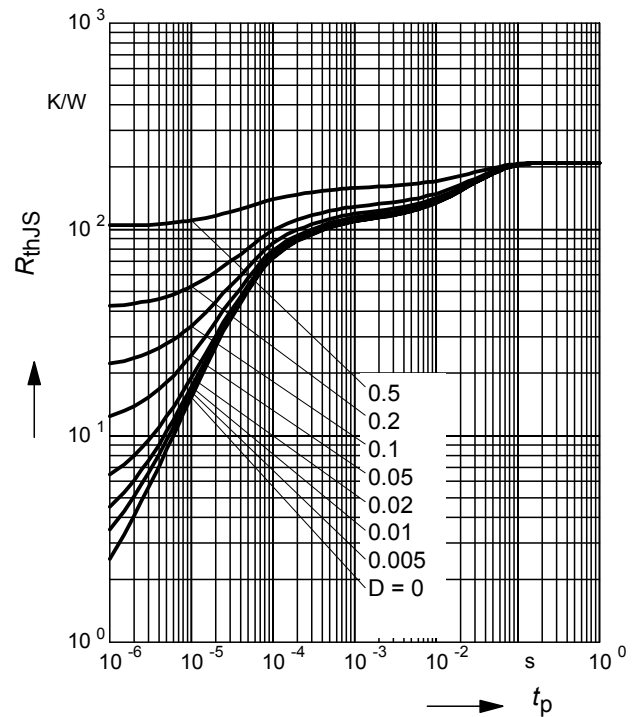
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS70-04, BAS70-06



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

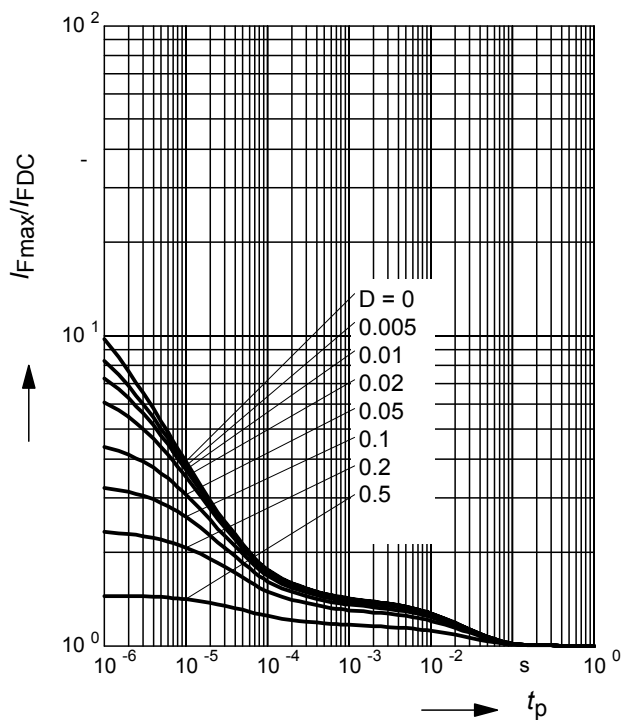
BAS70-04S



Permissible Pulse Load

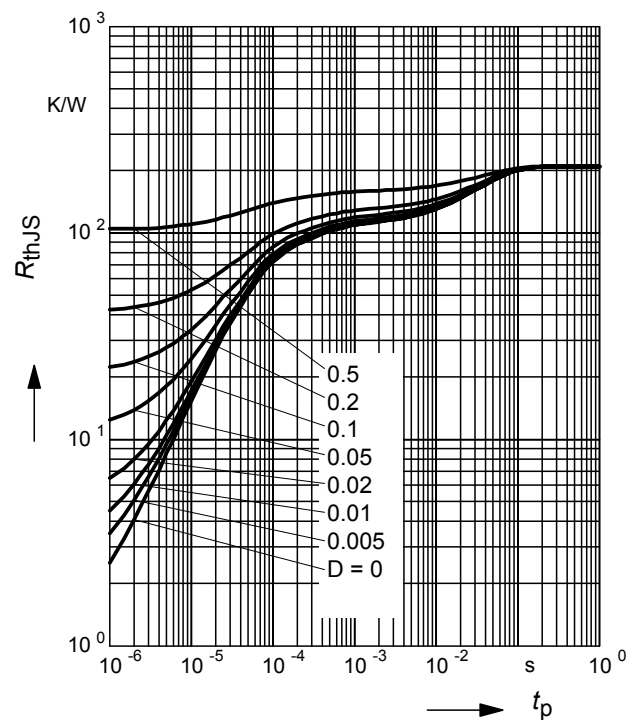
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAS70-04S



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

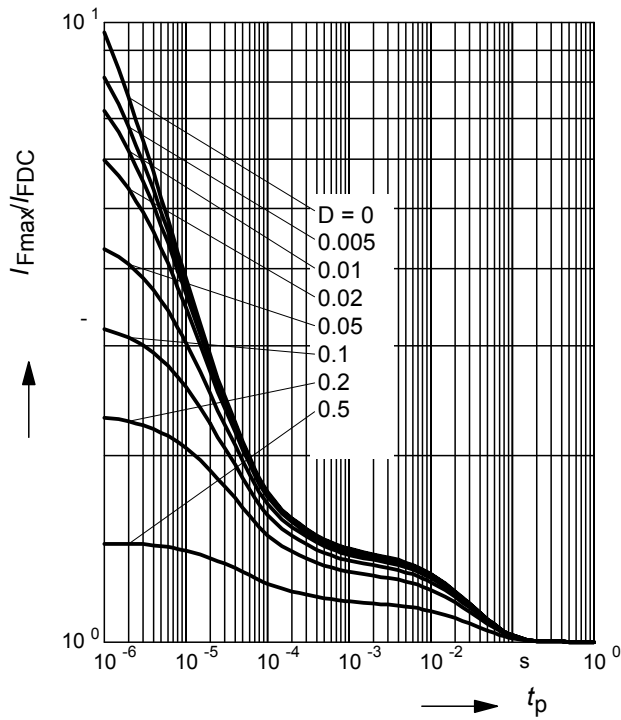
BAS70-04W, BAS70-06W



Permissible Pulse Load

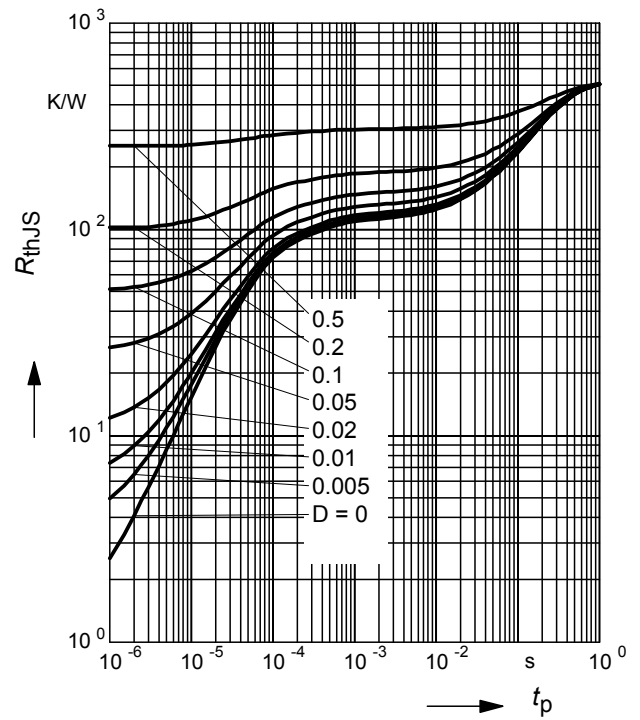
$$I_{Fmax} / I_{FDC} = f(t_p)$$

BAS70-04W, BAS70-06W



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

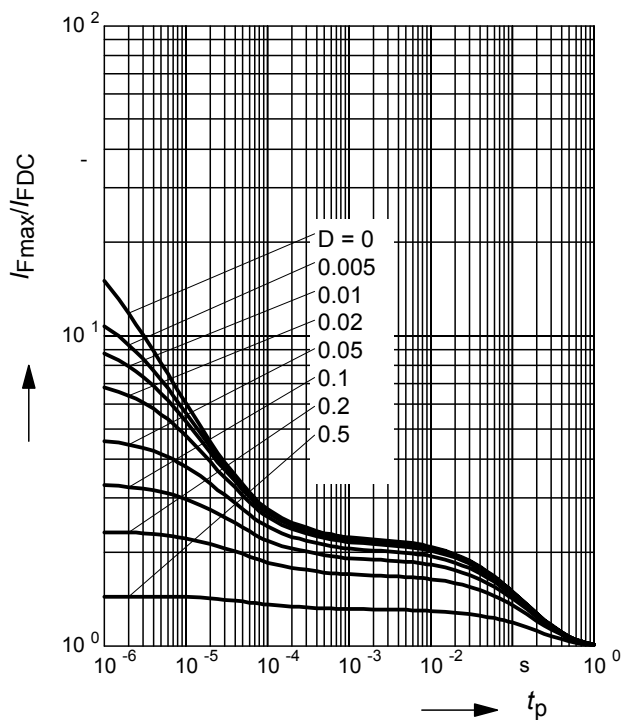
BAS70-05



Permissible Pulse Load

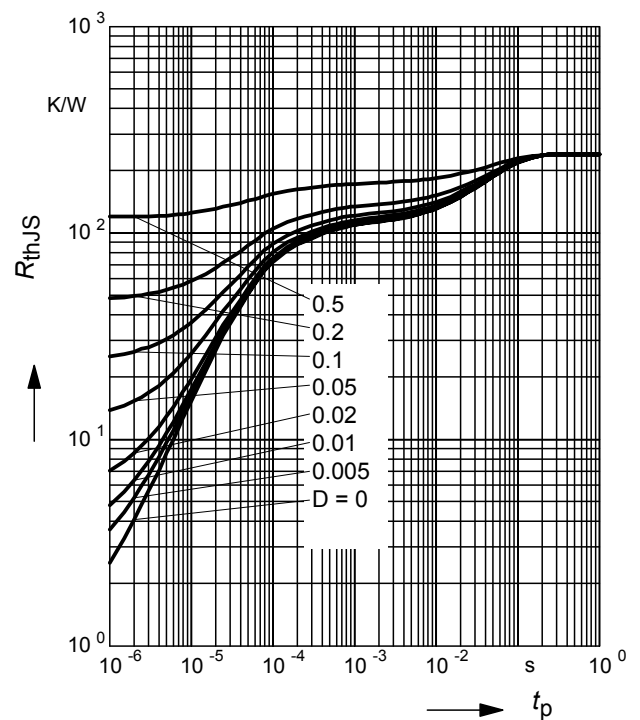
$$I_{Fmax} / I_{FDC} = f(t_p)$$

BAS70-05



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

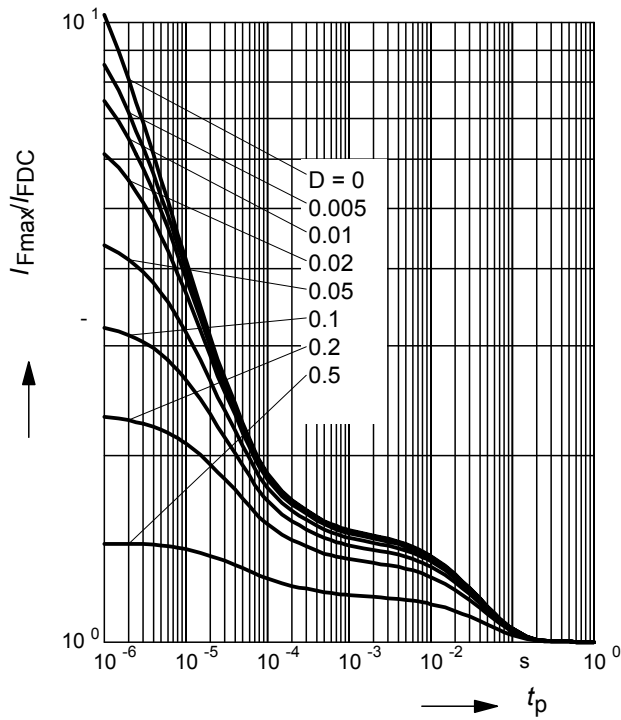
BAS70-05W



Permissible Pulse Load

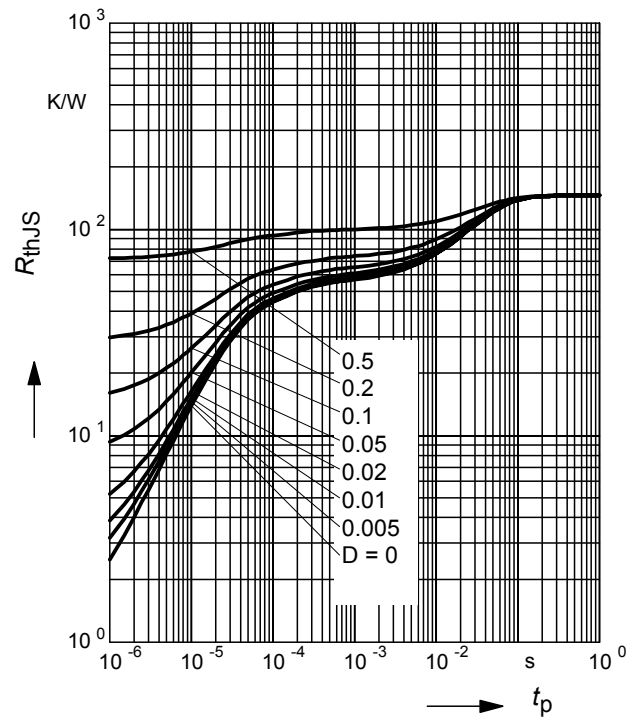
$$I_{Fmax} / I_{FDC} = f(t_p)$$

BAS70-05W



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

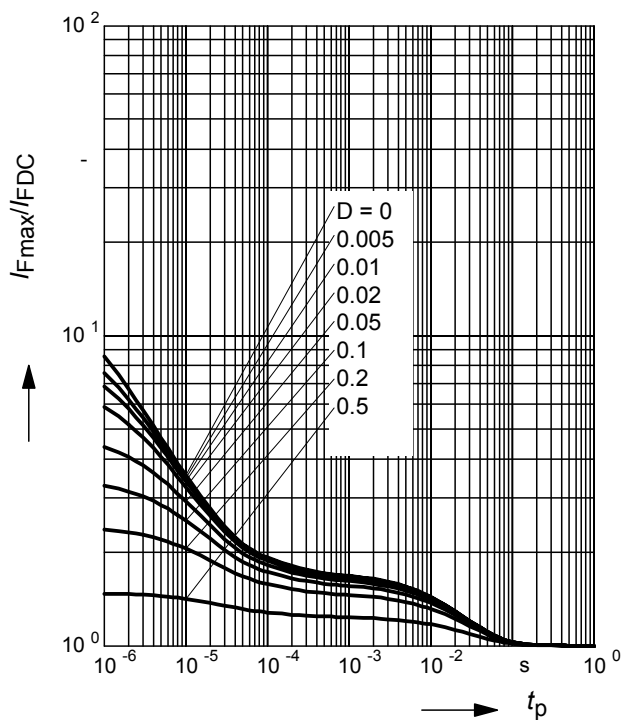
BAS70-07W



Permissible Pulse Load

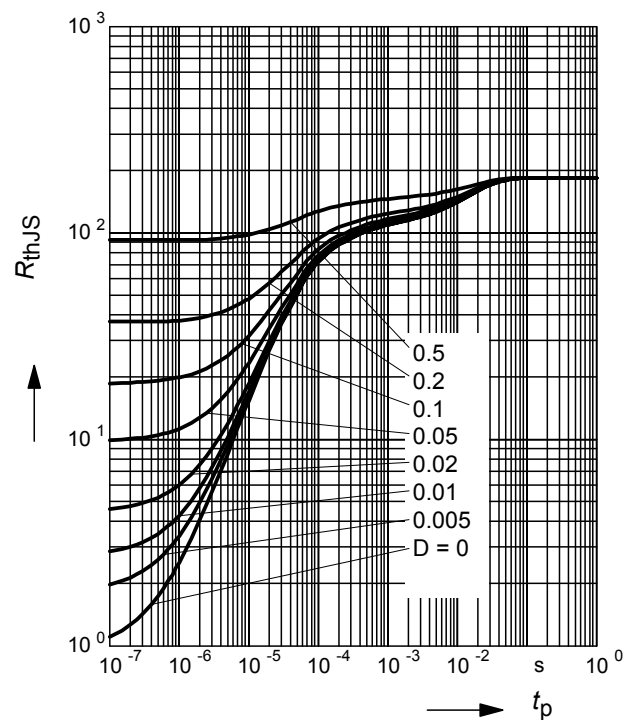
$$I_{Fmax} / I_{FDC} = f(t_p)$$

BAS70-07W



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

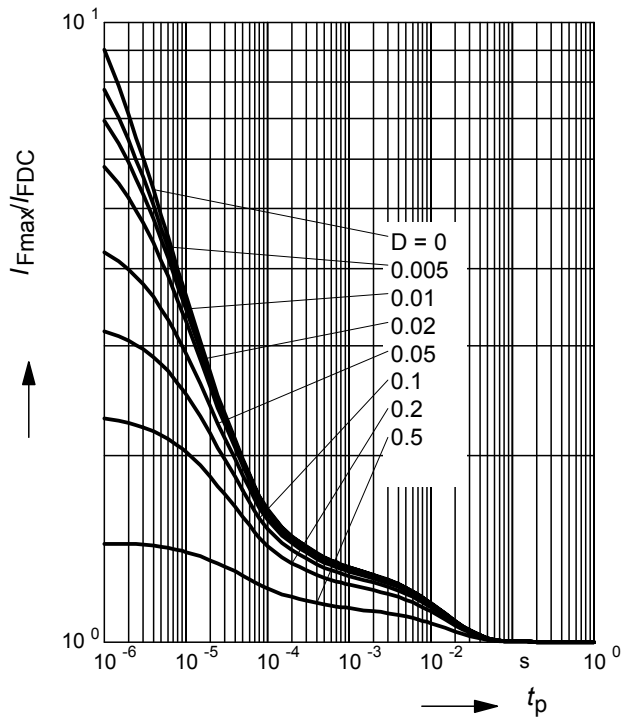
BAS170W



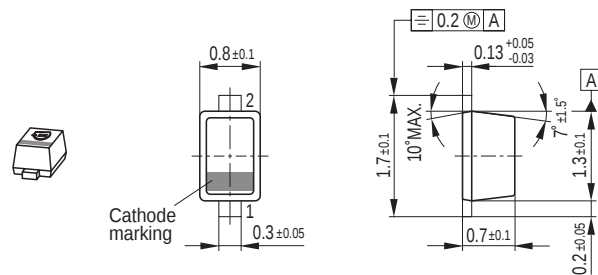
Permissible Pulse Load

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

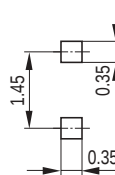
BAS170W



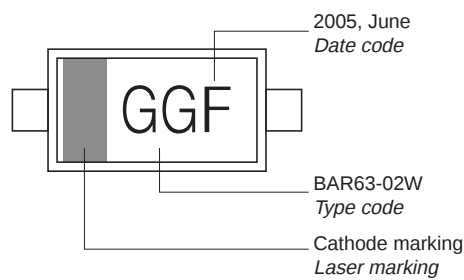
Package Outline



Foot Print

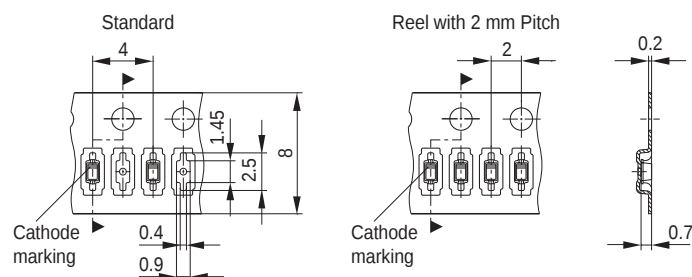


Marking Layout (Example)



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.

Technical drawing of a stepped shaft. The shaft has a total length of 1.7. It consists of two main sections: a left section with a diameter of 0.6 and a length of 0.8, and a right section with a diameter of 0.8 and a length of 0.8. The drawing shows the shaft in a side view with a centerline and a cross-section at the end of the 0.6 diameter section.

BAR63-03W
Type code

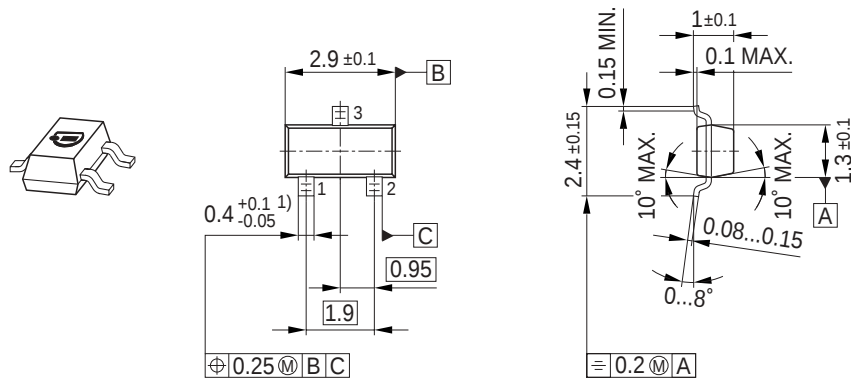
Cathode marking
Laser marking

Technical drawing of a cathode marking on a cylindrical part. The drawing shows a side view and a cross-section. The side view has dimensions: 4 (width of the marking area), 8 (total width), 2 (height of the marking area), 2.9 (height of the base), 0.65 (radius of the base), and 1.35 (radius of the base). The cross-section shows a 0.2 mm thick layer and a 1 mm wide base. A label "Cathode marking" points to the marking area.

Technical drawing of a mechanical part showing top and side views with dimensions:

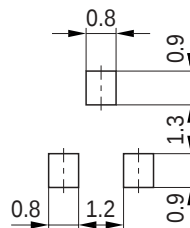
- Top View Dimensions:**
 - Overall width: 4
 - Overall height: 8
 - Distance from left edge to center of first hole: 3.15
 - Distance between centers of first and second holes: 2.6
 - Distance between centers of second and third holes: 2.6
 - Distance from center of third hole to right edge: 2.6
- Side View Dimensions:**
 - Overall thickness: 0.2
 - Distance from bottom edge to center of hole: 1.15
- Other Features:**
 - Three circular holes are shown in the top view.
 - Two rectangular features are shown in the top view, one on the left and one in the middle.
 - A label "Pin 1" points to the left edge of the part.

Package Outline

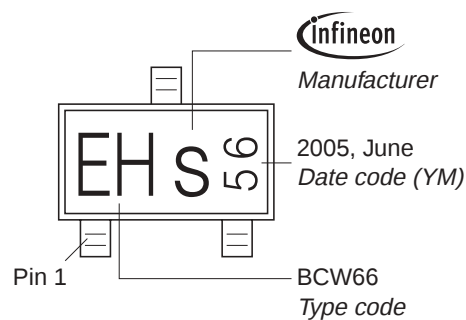


1) Lead width can be 0.6 max. in dambar area

Foot Print

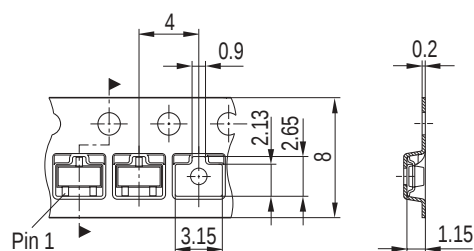


Marking Layout (Example)

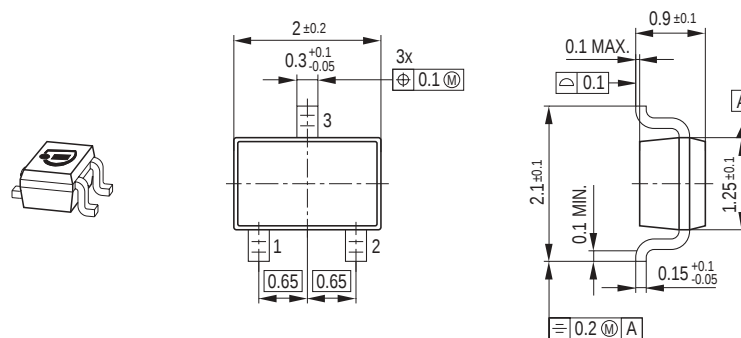


Standard Packing

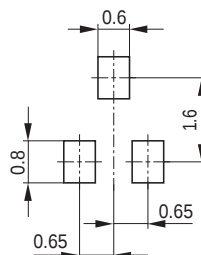
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



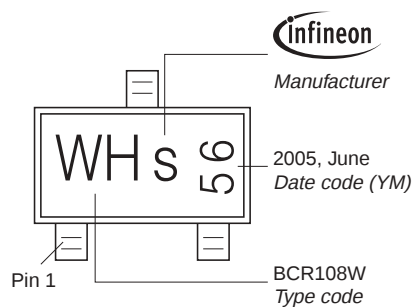
Package Outline



Foot Print

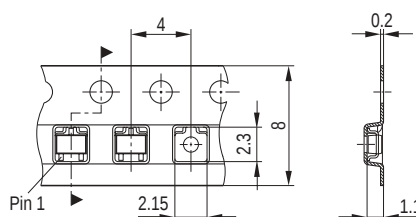


Marking Layout (Example)

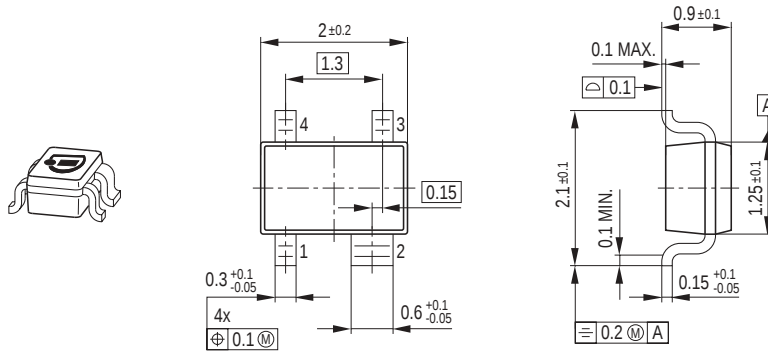


Standard Packing

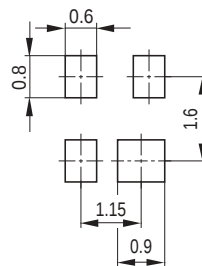
Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel



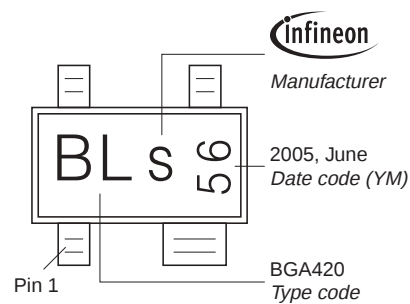
Package Outline



Foot Print

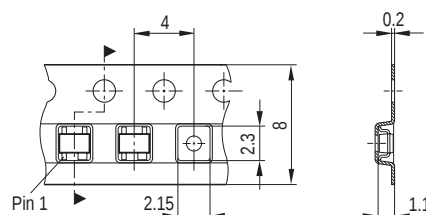


Marking Layout (Example)

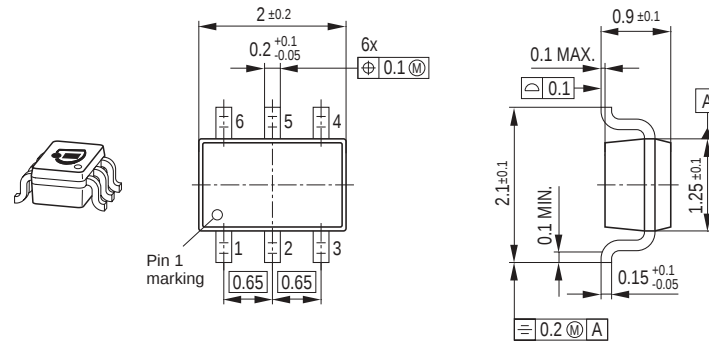


Standard Packing

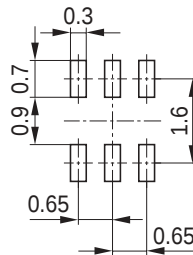
Reel ø180 mm = 3.000 Pieces/Reel
 Reel ø330 mm = 10.000 Pieces/Reel



Package Outline

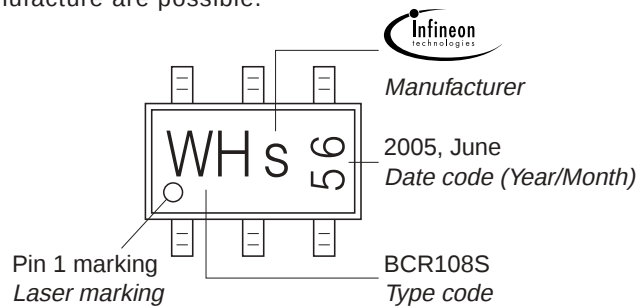


Foot Print



Marking Layout (Example)

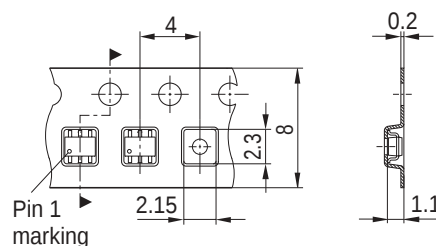
Small variations in positioning of
Date code, Type code and Manufacture are possible.



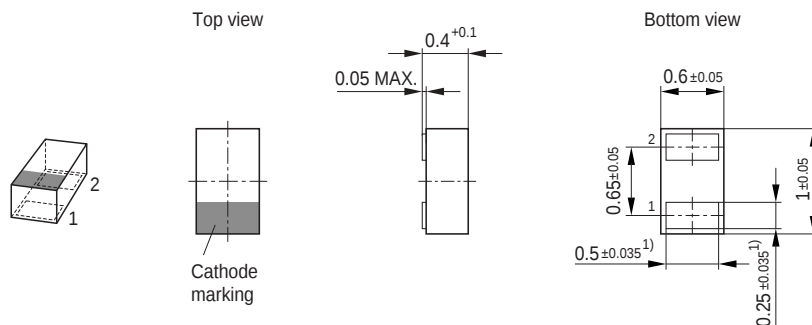
Standard Packing

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

For symmetric types no defined Pin 1 orientation in reel.



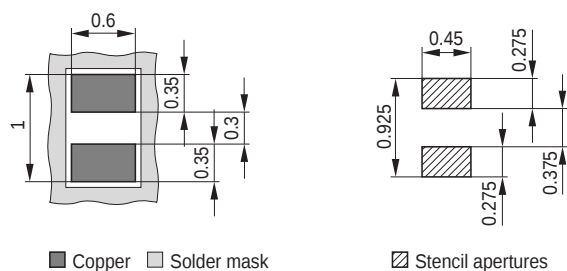
Package Outline



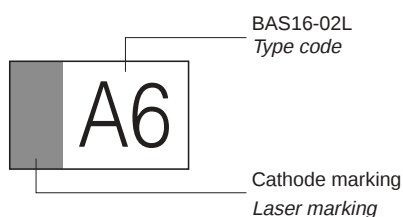
1) Dimension applies to plated terminal

Foot Print

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



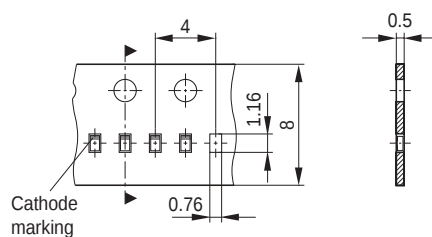
Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel

Reel ø330 mm = 50.000 Pieces/Reel (optional)



Technical drawing of a 2x2 grid of holes. The drawing shows a rectangular plate with four holes arranged in a square pattern. The dimensions and tolerances are as follows:

- Overall width: 1.2 ± 0.05
- Overall height: 1.2 ± 0.05
- Distance between hole centers (pitch): 0.8 ± 0.05
- Distance from the left edge to the first hole center: 0.45 ± 0.05
- Distance from the top edge to the first hole center: 0.75 ± 0.05
- Hole diameter: $4 \times 0.25 \pm 0.035$
- Distance from the hole center to the right edge: 0.35 ± 0.035
- Distance from the hole center to the bottom edge: 0.35 ± 0.035

Technical drawing of a mechanical part. The main view shows a rectangular block with a width of 8 and a height of 1.45. There are four circular features (pins) spaced 4 units apart. The distance from the left edge to the first pin is 1.05. A label 'Pin 1 marking' points to the first pin. A cross-section view on the right shows a thickness of 0.5.

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