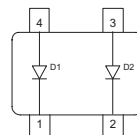
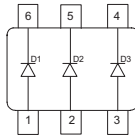
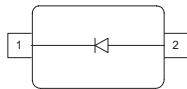
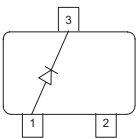


Silicon Switching Diode

- For high-speed switching applications


BAS16
BAS16W
BAS16-02L
BAS16-02V
BAS16-02W
BAS16-03W
BAS16S
BAS16U
BAS16-07L4


Type	Package	Configuration	Marking
BAS16	SOT23	single	A6s
BAS16-02L*	TSLP-2-1	single, leadless	A6
BAS16-02V	SC79	single	6
BAS16-02W	SCD80	single	A6
BAS16-03W	SOD323	single	B
BAS16-07L4*	TSLP-4-4	parallel pair, leadless	6A
BAS16S	SOT363	parallel triple	A6s
BAS16U	SC74	parallel triple	A6s
BAS16W	SOT323	single	A6s

* Preliminary Data

Maximum Ratings at $T_A = 25^\circ\text{C}$, 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
$t = 1 \mu\text{s}$, BAS16/ S/ U/ W/ -03W		4.5	
$t = 1 \mu\text{s}$, BAS16-02L/ -02V/ -02W/ -07L4		2.5	
$t = 1 \text{s}$		0.5	
Total power dissipation	P_{tot}		mW
BAS16, $T_S \leq 54^\circ\text{C}$		370	
BAS16-02L, -07L4, $T_S \leq 130^\circ\text{C}$		250	
BAS16-02V, -02W, $T_S \leq 120^\circ\text{C}$		250	
BAS16-03W, $T_S \leq 116^\circ\text{C}$		250	
BAS16S, $T_S \leq 85^\circ\text{C}$		250	
BAS16U, $T_S \leq 113^\circ\text{C}$		250	
BAS16W, $T_S \leq 119^\circ\text{C}$	250		
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

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

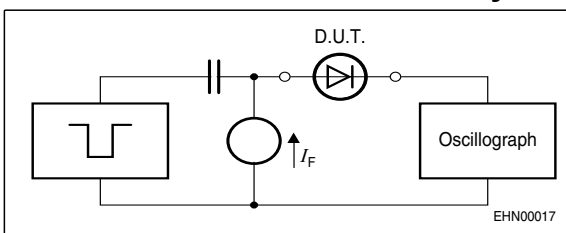
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	85	-	-	V
Reverse current $V_R = 75 \text{ V}$ $V_R = 25 \text{ V}, T_A = 150^\circ\text{C}$ $V_R = 75 \text{ V}, T_A = 150^\circ\text{C}$	I_R	-	-	0.1 30 50	μA
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 50 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 150 \text{ mA}$	V_F	-	-	715 855 1000 1200 1250	mV
Forward recovery voltage $I_F = 10 \text{ mA}, t_P = 20 \text{ ns}$	V_{fr}	-	-	1.75	V

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.	
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

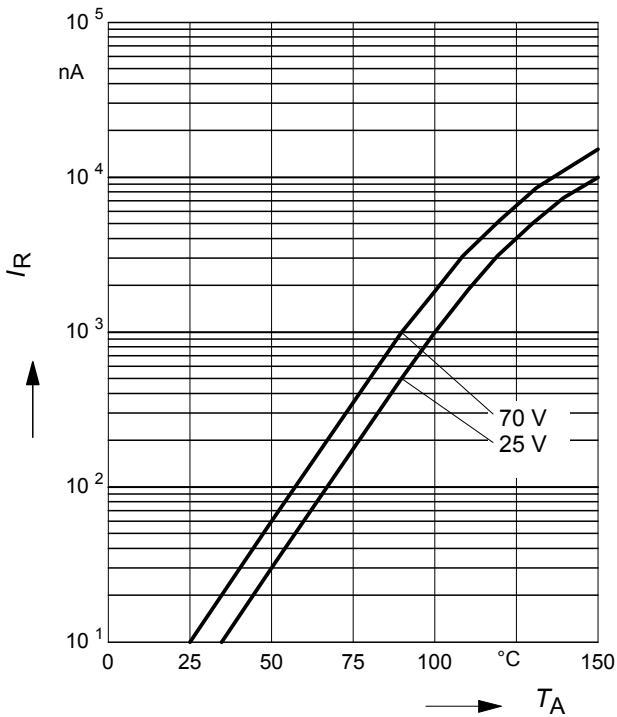
Test circuit for reverse recovery time


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

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

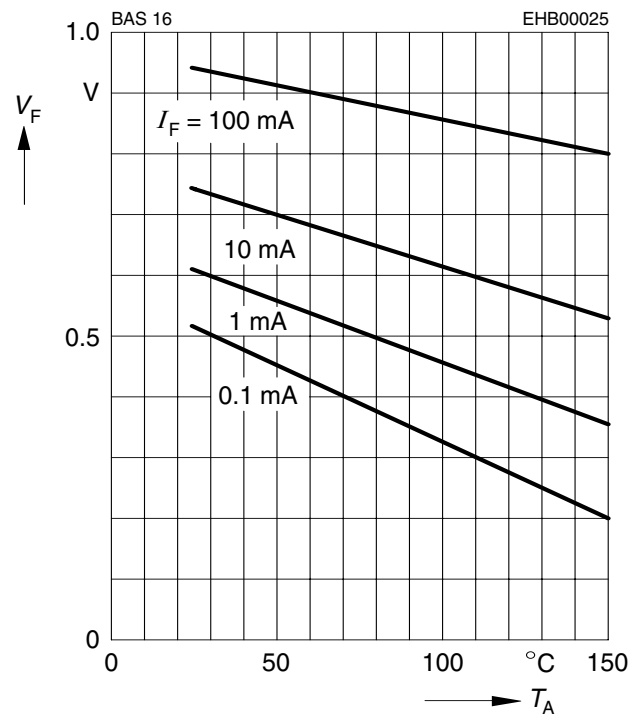
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



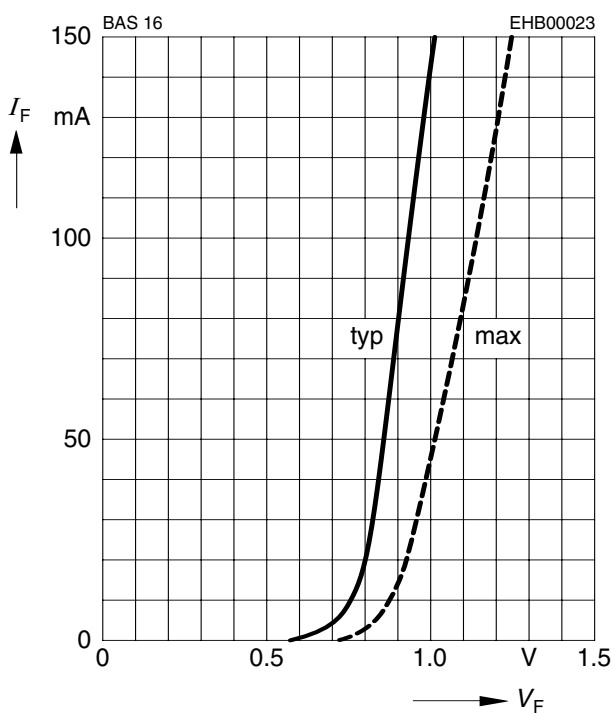
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



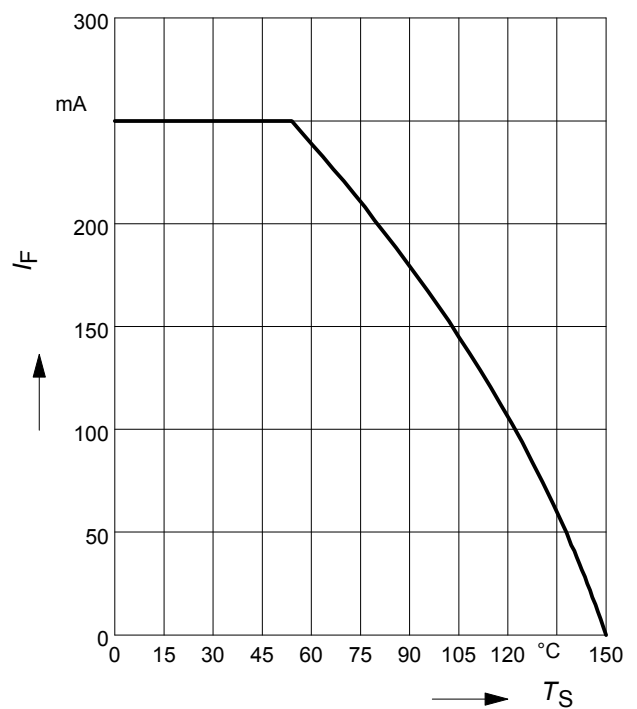
Forward current $I_F = f(V_F)$

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



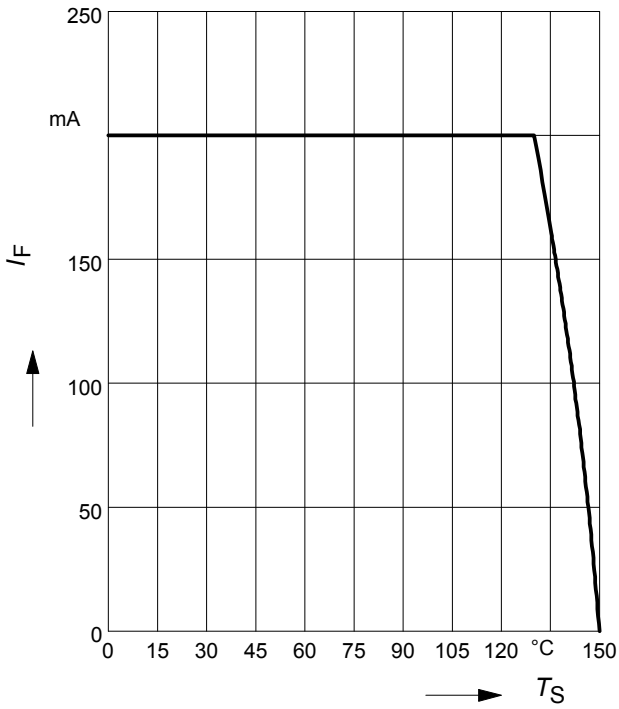
Forward current $I_F = f(T_S)$

BAS16



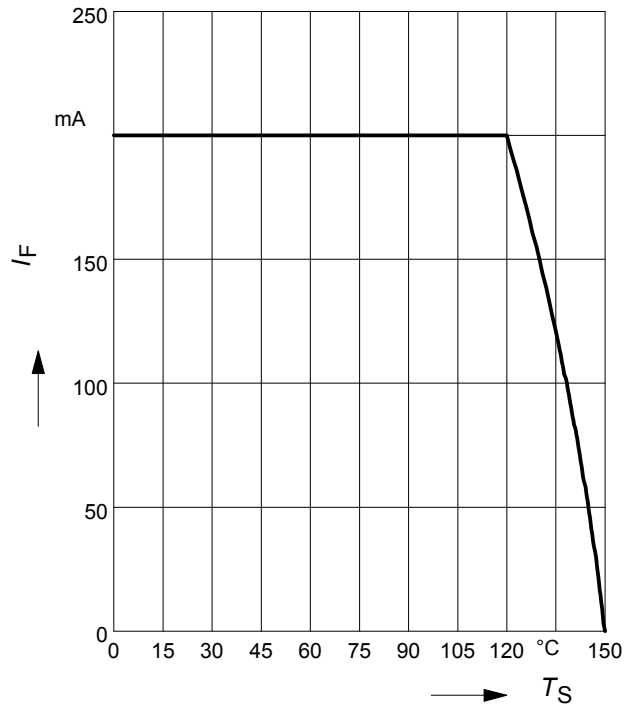
Forward current $I_F = f(T_S)$

BAS16-02L, -07L4



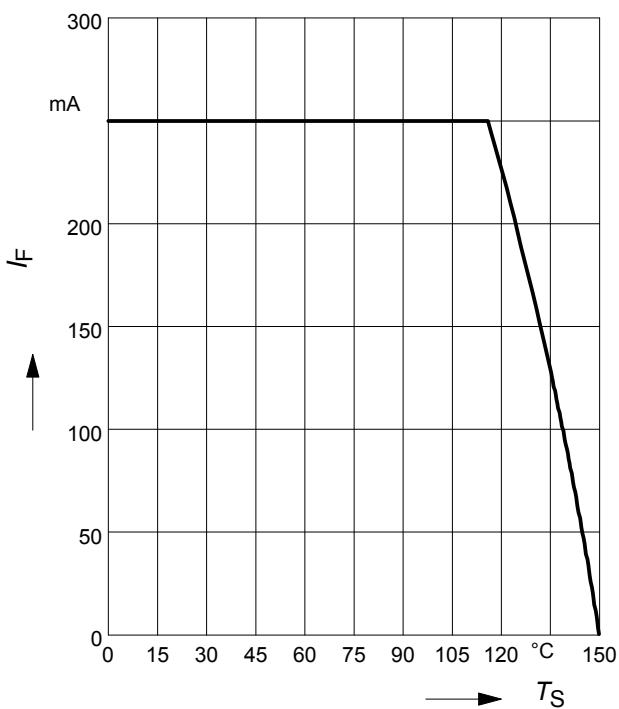
Forward current $I_F = f(T_S)$

BAS16-02V, -02W



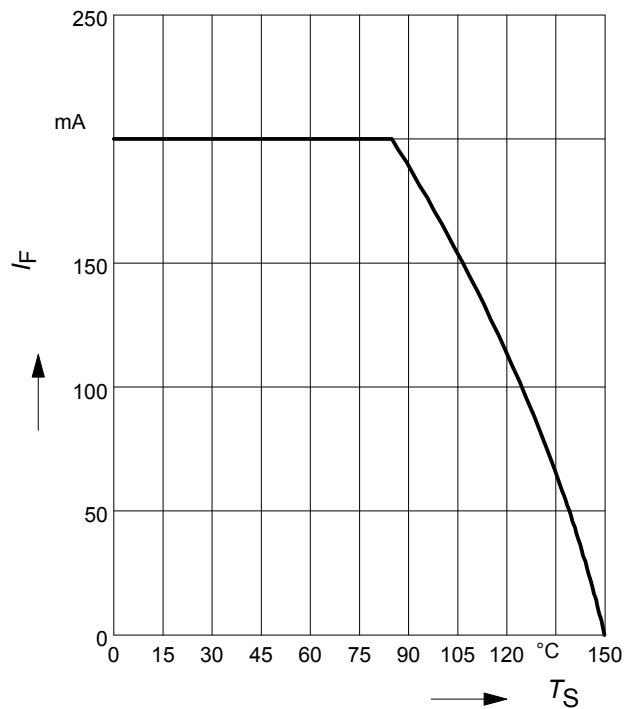
Forward current $I_F = f(T_S)$

BAS16-03W



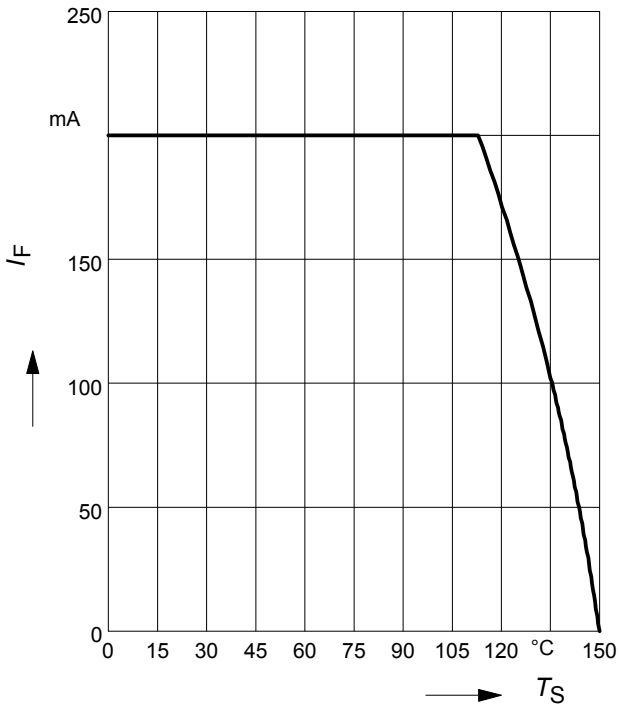
Forward current $I_F = f(T_S)$

BAS16S



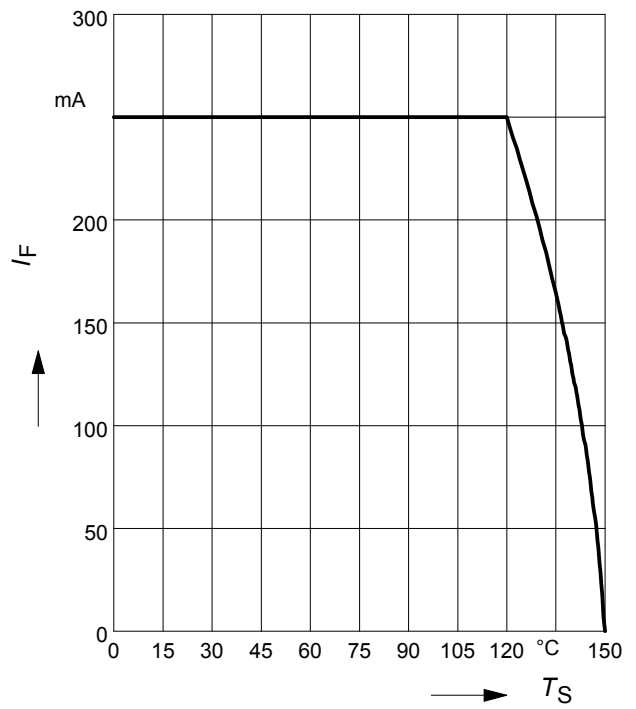
Forward current $I_F = f(T_S)$

BAS16U



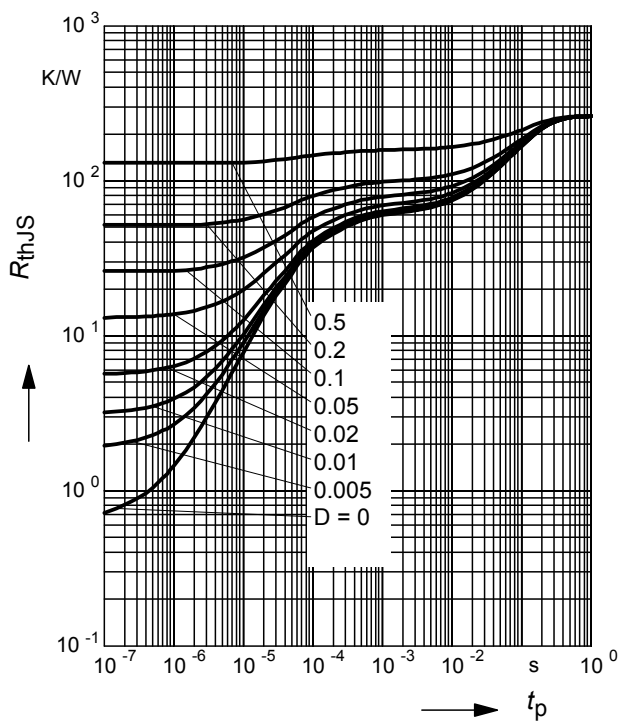
Forward current $I_F = f(T_S)$

BAS16W



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

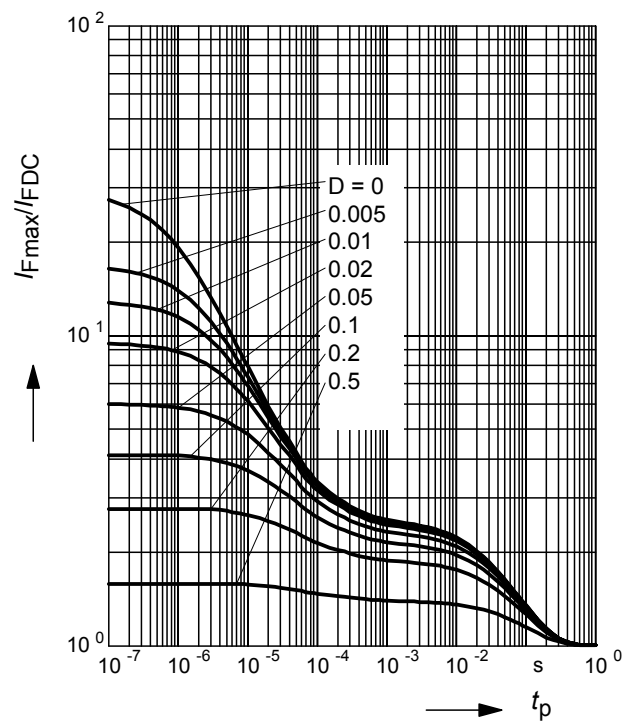
BAS16



Permissible Pulse Load

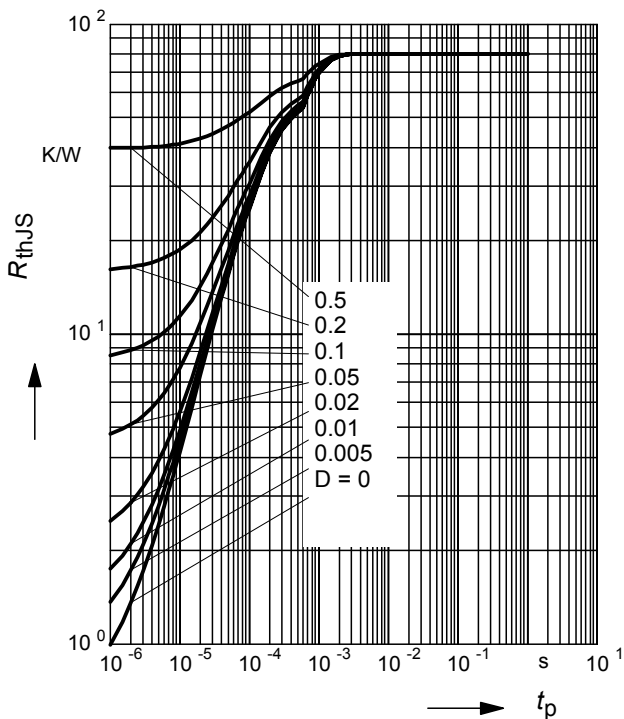
$I_{Fmax} / I_{FDC} = f(t_p)$

BAS16



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

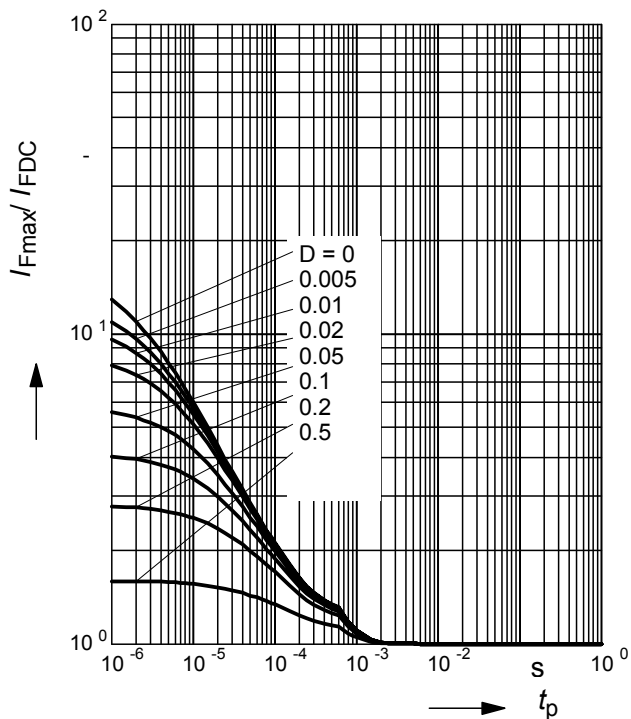
BAS16-02L, -07L4



Permissible Pulse Load

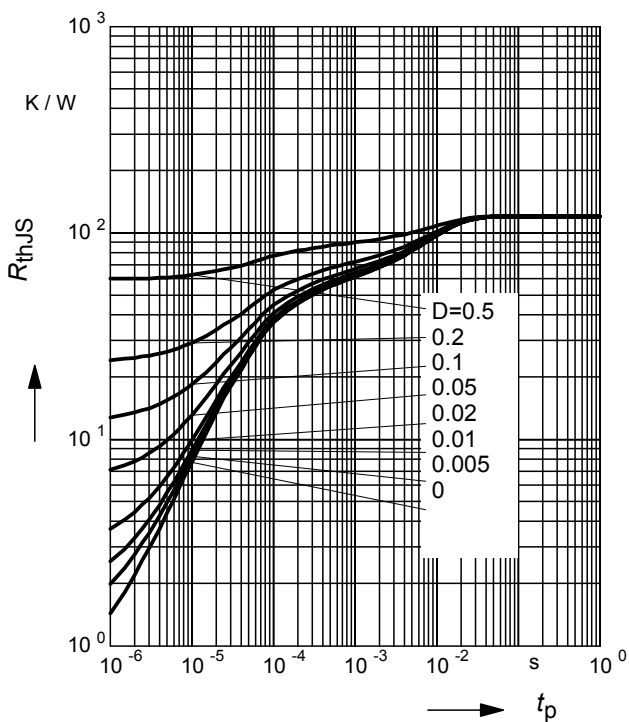
$I_{Fmax} / I_{FDC} = f(t_p)$

BAS16-02L, -07L4



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

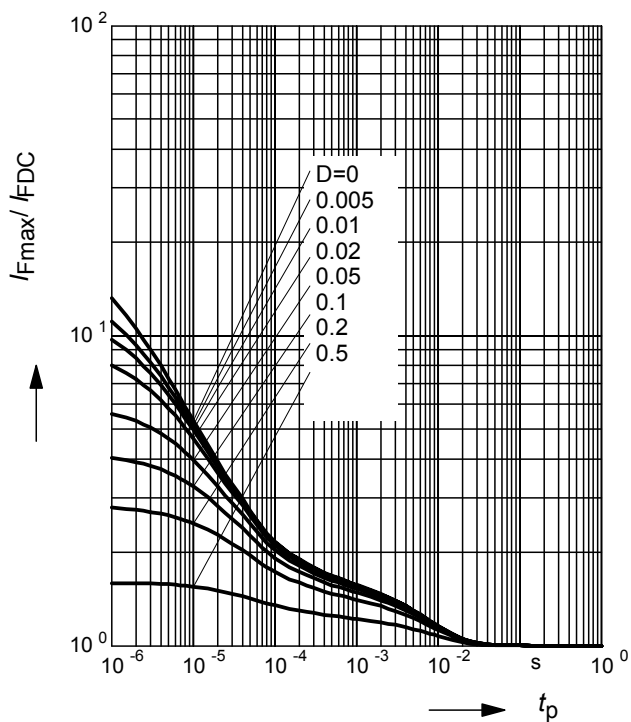
BAS16-02V, -02W



Permissible Pulse Load

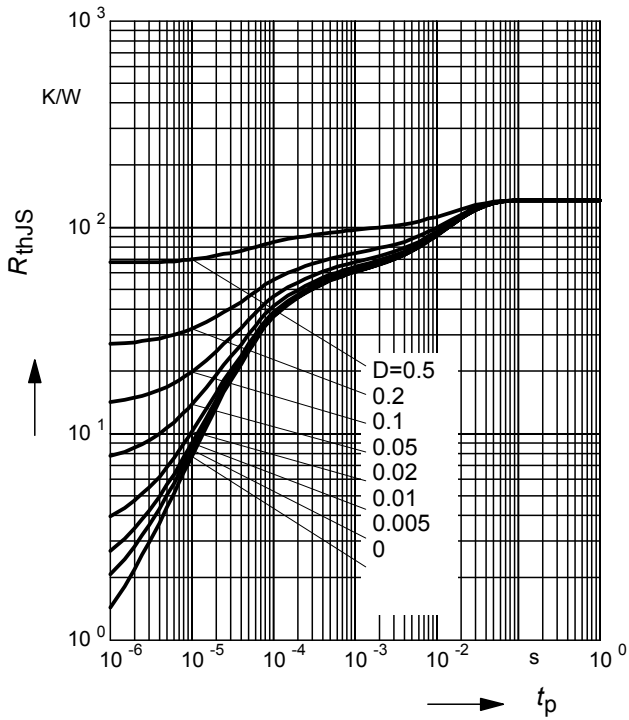
$I_{Fmax} / I_{FDC} = f(t_p)$

BAS16-02V, -02W



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

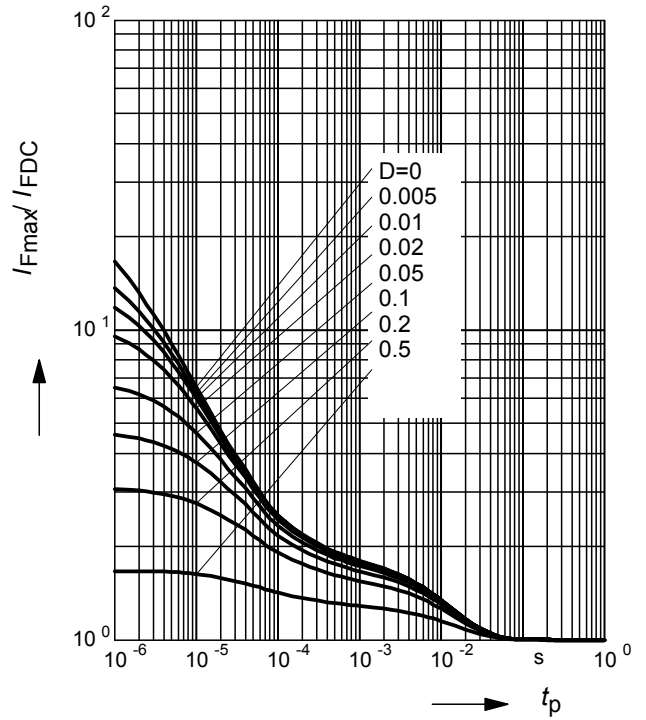
BAS16-03W



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

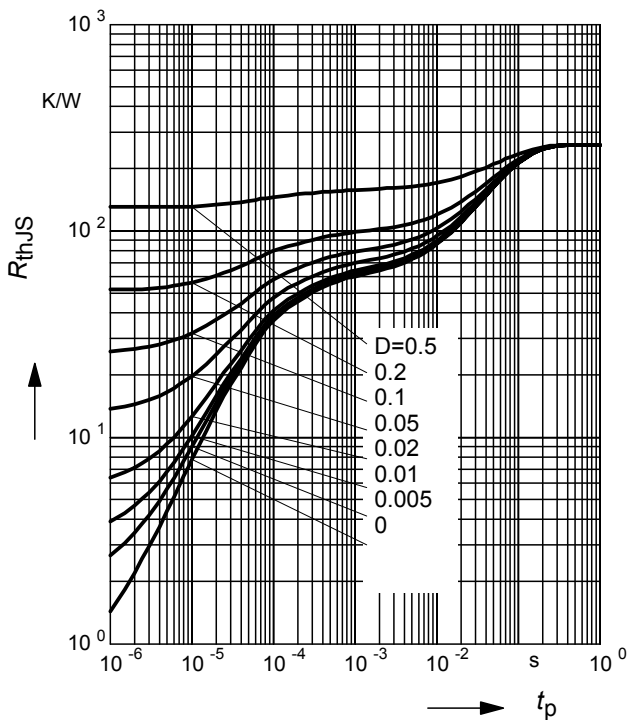
$I_{Fmax}/I_{FDC} = f(t_p)$

BAS16-03W



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

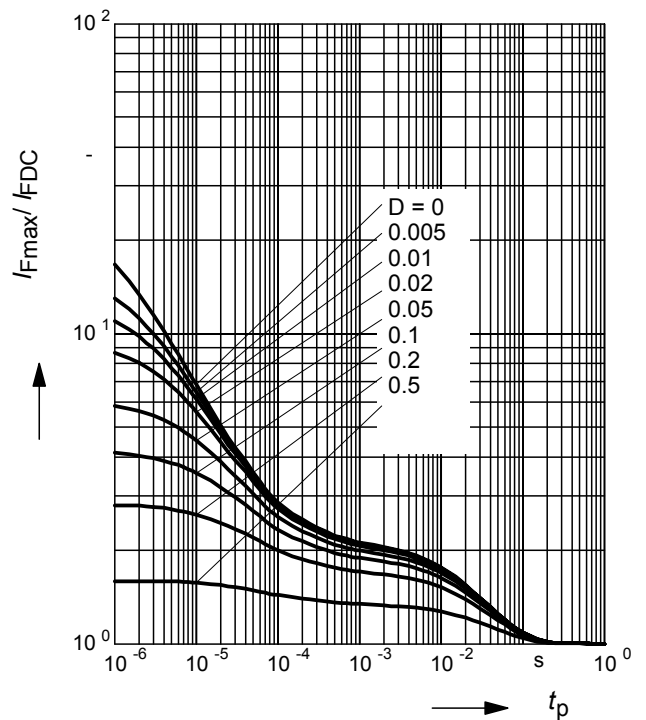
BAS16S



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

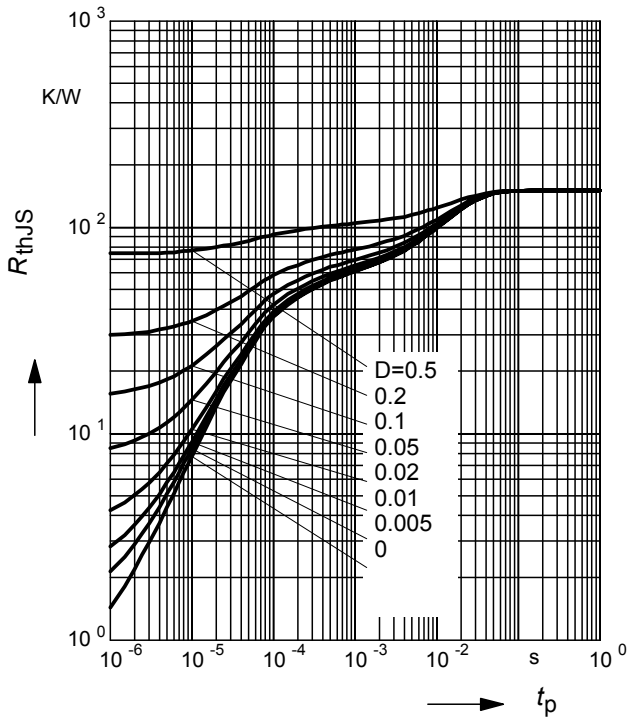
$I_{Fmax}/I_{FDC} = f(t_p)$

BAS16S



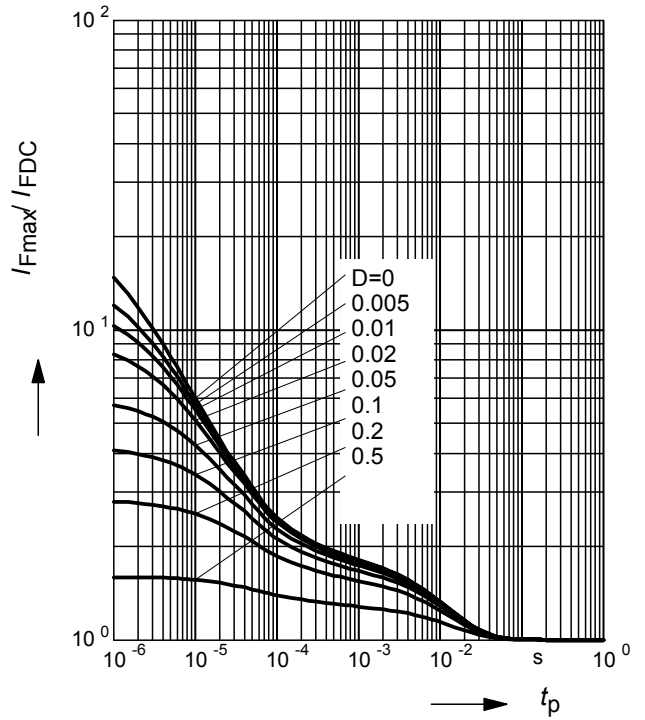
Permissible Puls Load $R_{thJS} = f(t_p)$

BAS16U



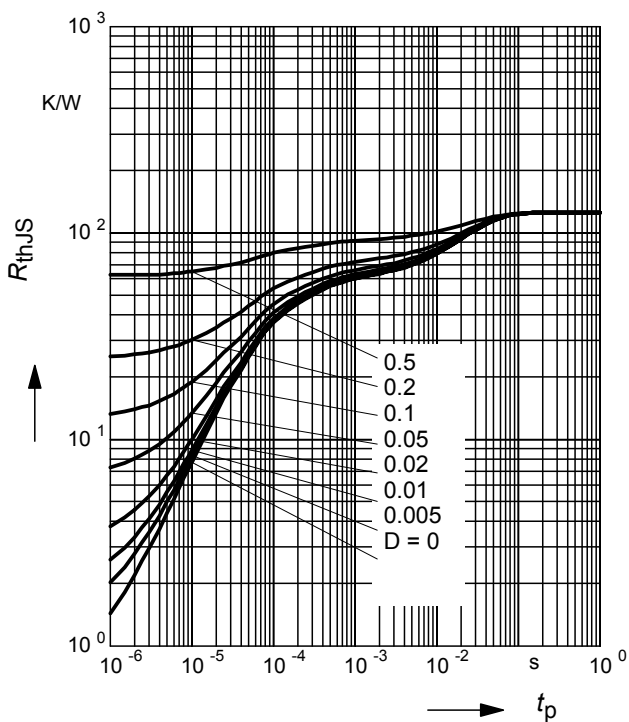
Permissible Pulse Load $I_{Fmax}/I_{FDC} = f(t_p)$

BAS16U



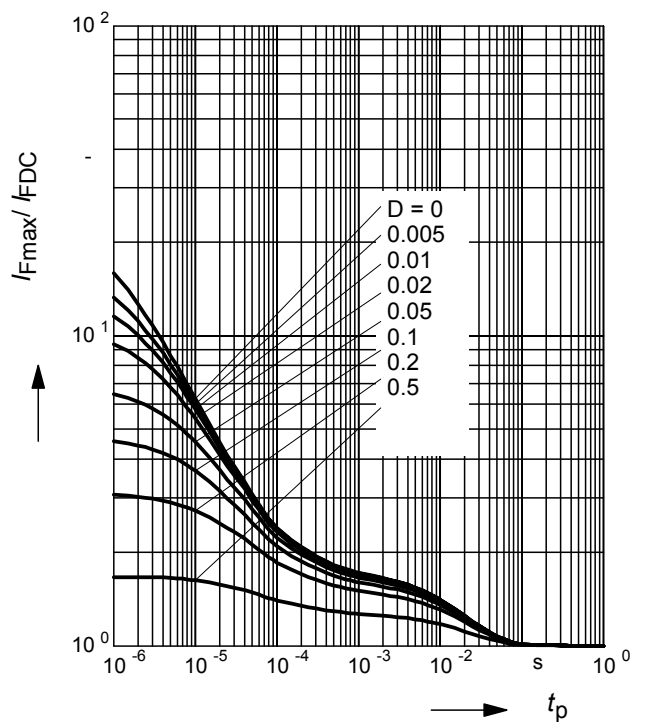
Permissible Puls Load $R_{thJS} = f(t_p)$

BAS16W



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

BAS16W





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.