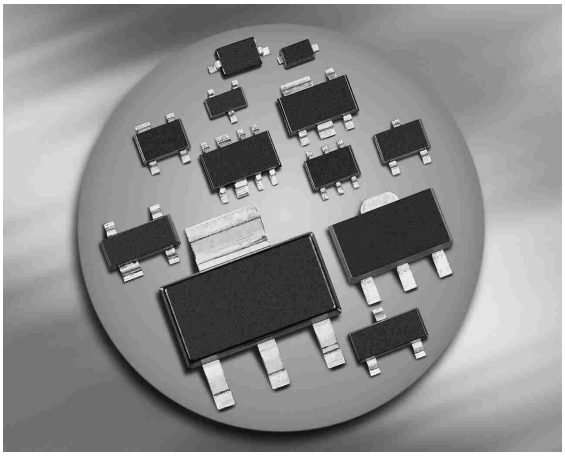
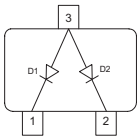
Silicon Switching Diode

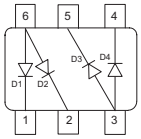
- For high-speed switching applications
- Common anode configuration



BAW56
BAW56T
BAW56W



BAW56S
BAW56U



Type	Package	Configuration	Marking
BAW56	SOT23	common anode	A1s
BAW56S	SOT363	double common anode	A1s
BAW56T	SC75	common anode	A1s
BAW56U	SC74	double common anode	A1s
BAW56W	SOT323	common anode	A1s

Maximum Ratings at T_A = 25°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	200	mA
Non-repetitive peak surge forward current	I_{FSM}		A
t = 1 µs		4.5	
t = 1 ms		1	
t = 1 s, single		0.5	
t = 1 s, double		0.75	
Total power dissipation	P_{tot}		mW
BAW56, $T_S \leq 28$°C		330	
BAW56S, $T_S \leq 85$°C		250	
BAW56T, $T_S \leq 104$°C		250	
BAW56U, $T_S \leq 90$°C		250	
BAW56W, $T_S \leq 103$°C		250	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

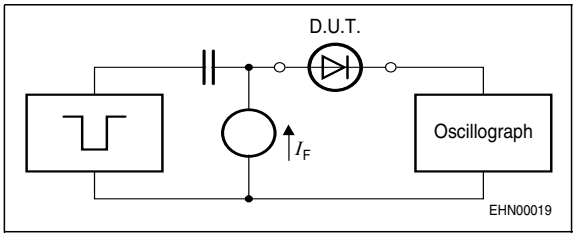
Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}		K/W
BAW56		360	
BAW56S		260	
BAW56T		185	
BAW56U		240	
BAW56W		190	

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

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)}$ = 100 µA	$V_{(BR)}$	85	-	-	V
Reverse current	I_R				µA
V_R = 70 V		-	-	0.15	
V_R = 25 V, T_A = 150 °C		-	-	30	
V_R = 70 V, T_A = 150 °C		-	-	50	
Forward voltage	V_F				mV
I_F = 1 mA		-	-	715	
I_F = 10 mA		-	-	855	
I_F = 50 mA		-	-	1000	
I_F = 100 mA		-	-	1200	
I_F = 150 mA		-	-	1250	
AC Characteristics					
Diode capacitance V_R = 0 V, f = 1 MHz	C_T	-	-	2	pF
Reverse recovery time I_F = 10 mA, I_R = 10 mA, measured at I_R = 1mA, R_L = 100 Ω	t_{rr}	-	-	4	ns

Test circuit for reverse recovery time

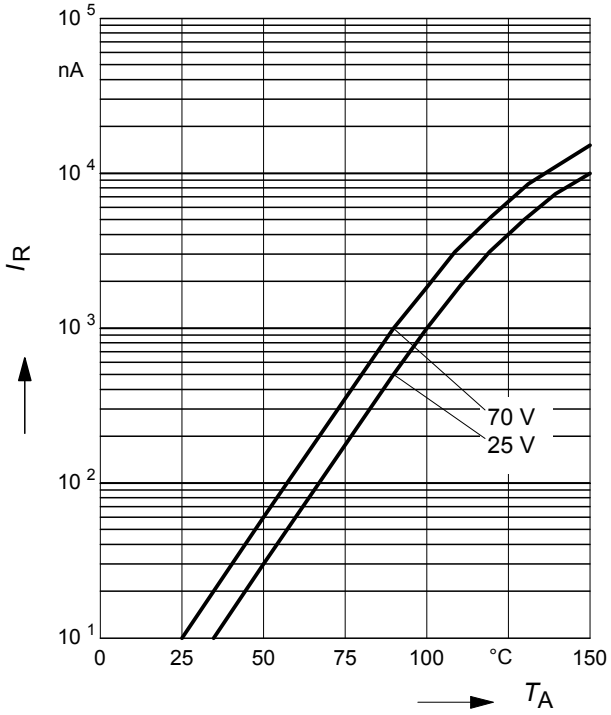


Pulse generator: t_p = 100ns, D = 0.05, t_r = 0.6ns, R_i = 50Ω

Oscillograph: R = 50Ω, t_r = 0.35ns, $C \leq$ 1pF

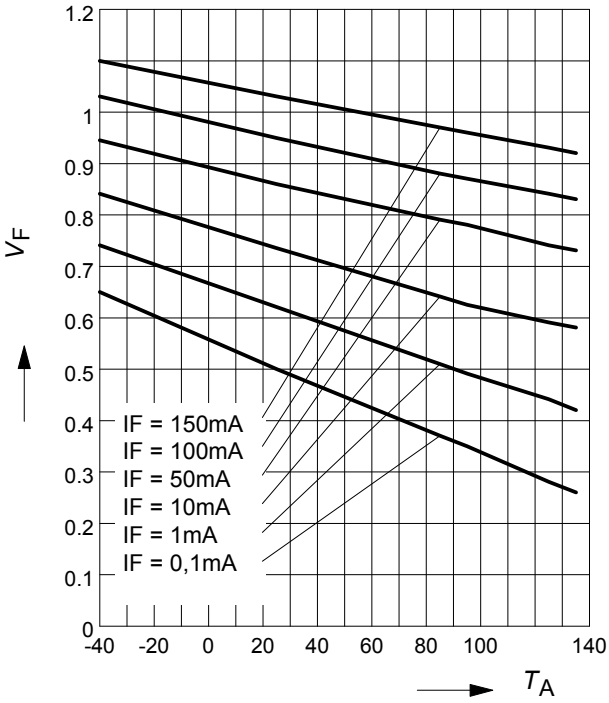
Reverse current $I_R = f(T_A)$

V_R = Parameter



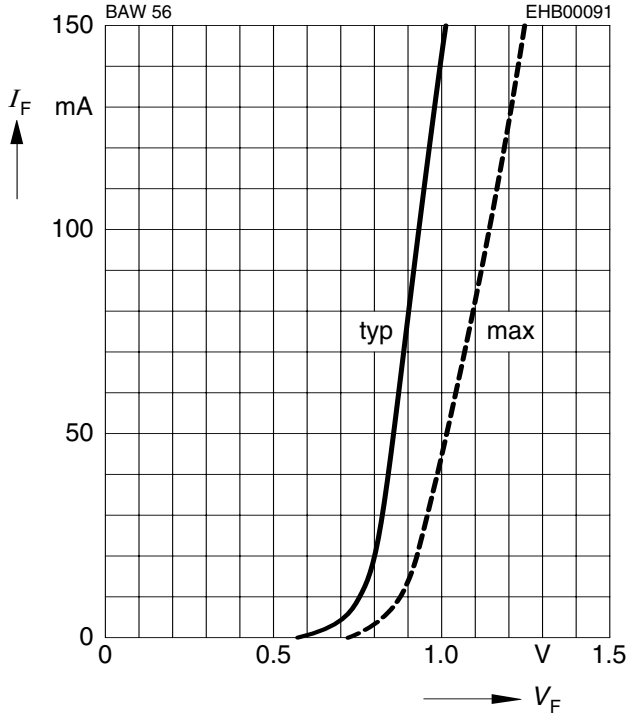
Forward Voltage $V_F = f(T_A)$

I_F = Parameter



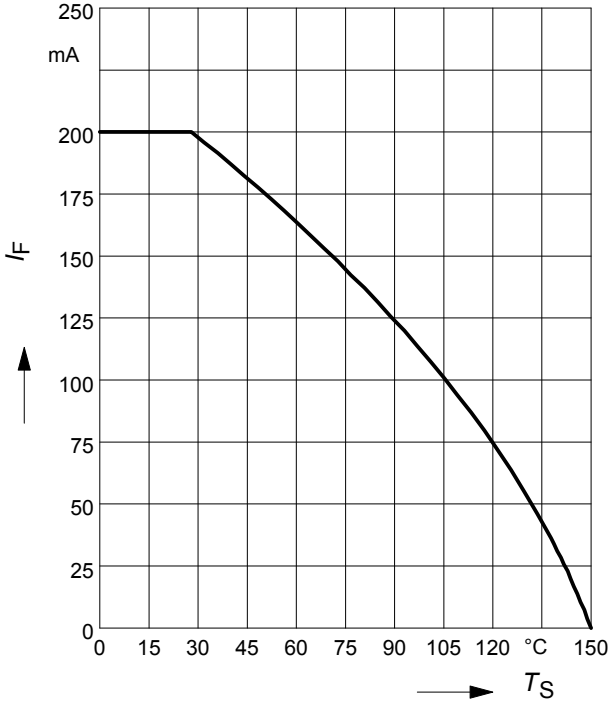
Forward current $I_F = f(V_F)$

T_A = 25°C

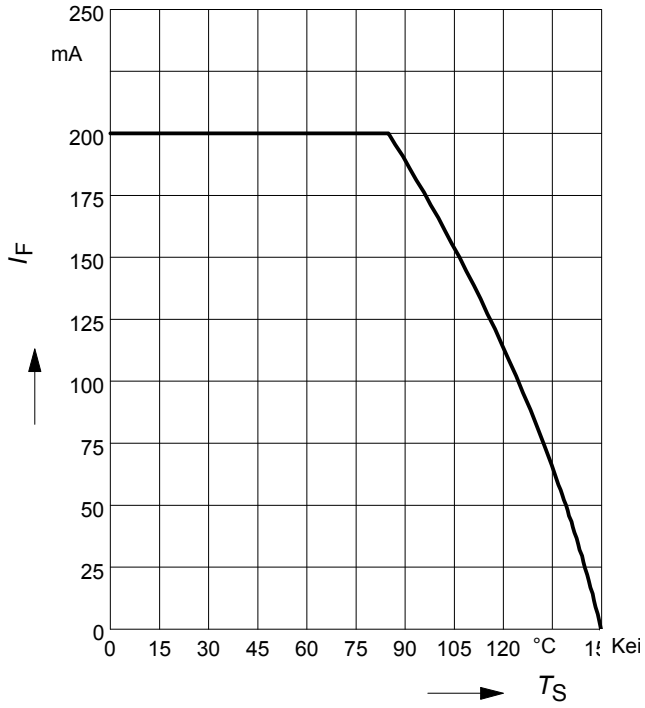


Forward current $I_F = f(T_S)$

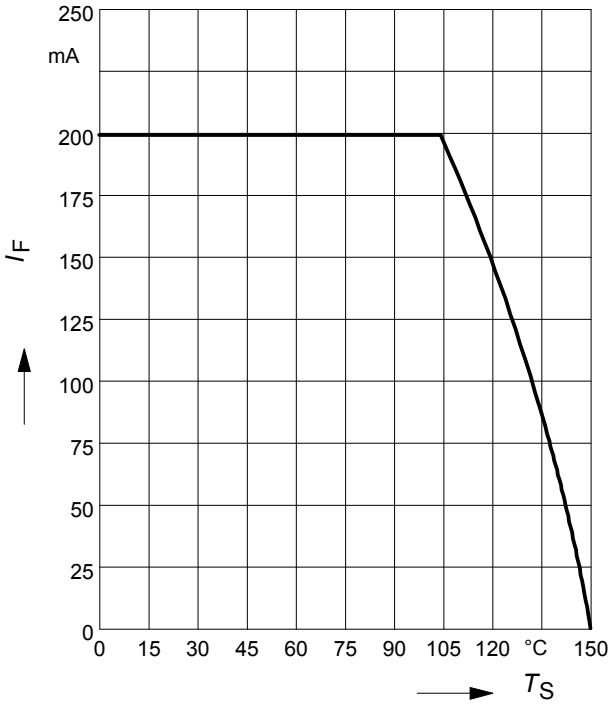
BAW56



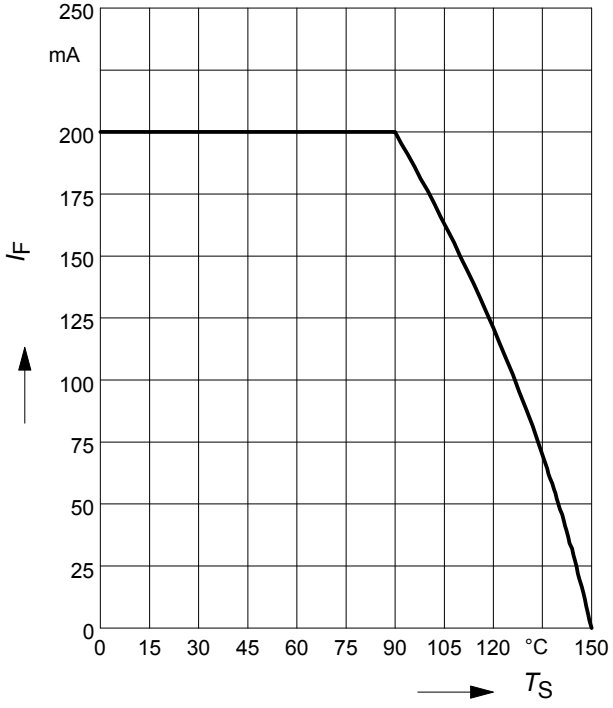
Forward current $I_F = f(T_S)$
BAW56S



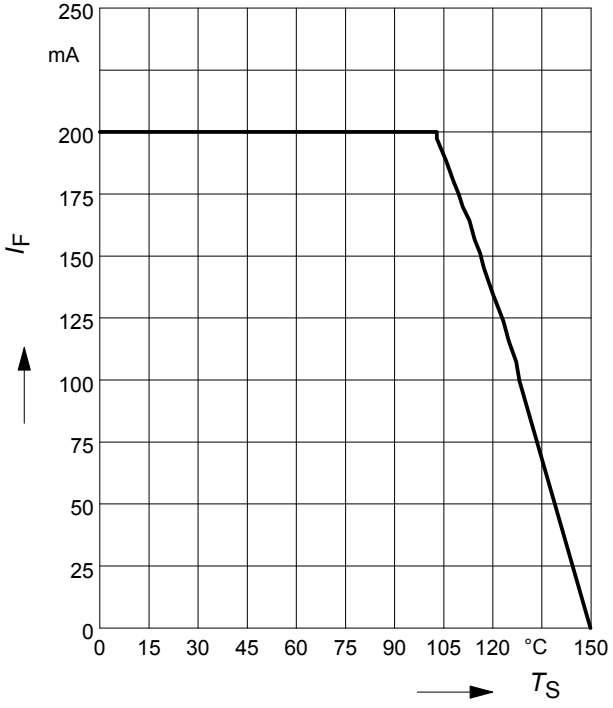
Forward current $I_F = f(T_S)$
BAW56T



Forward current $I_F = f(T_S)$
BAW56U

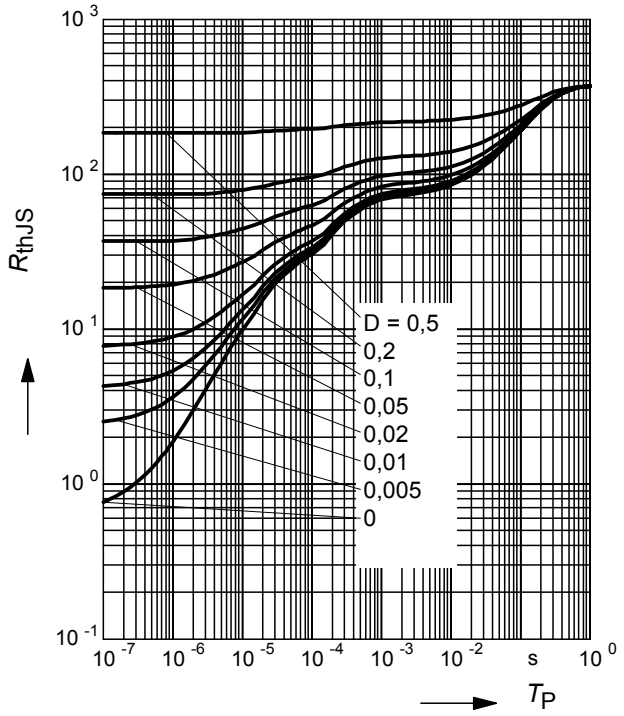


Forward current $I_F = f(T_S)$
BAW56W



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

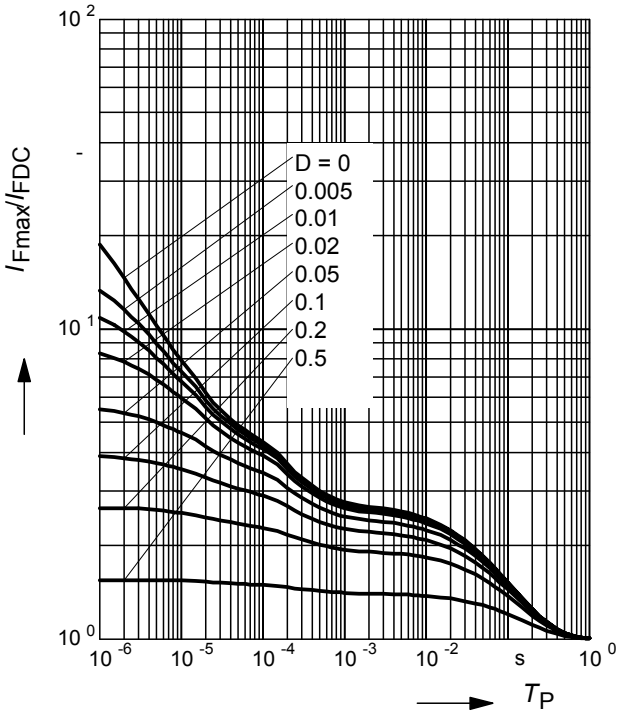
BAW56



Permissible Pulse Load

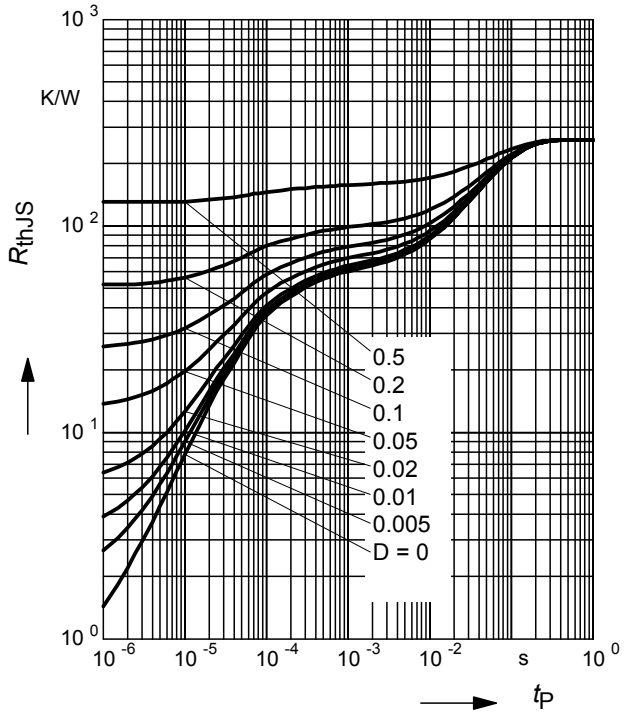
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAW56



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

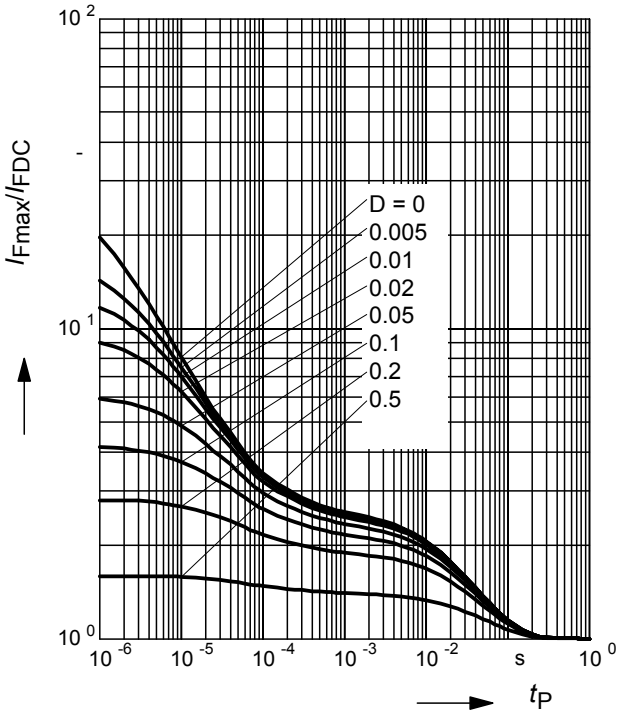
BAW56S



Permissible Pulse Load

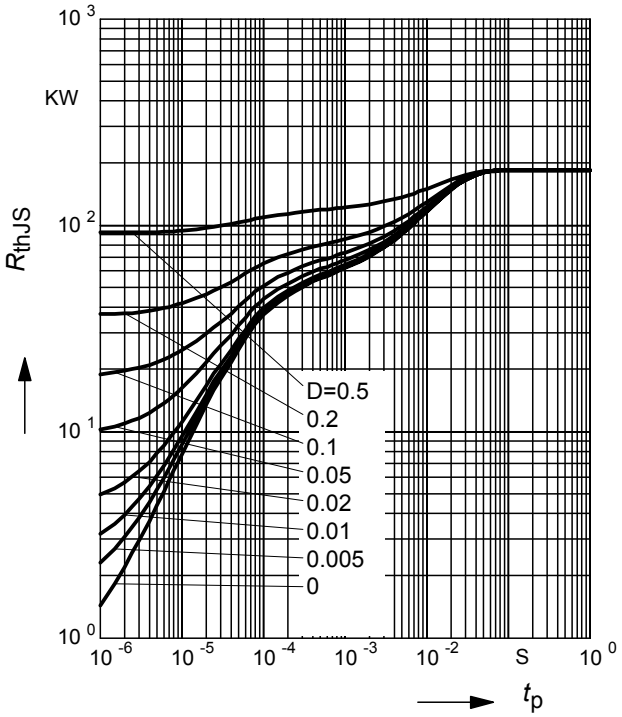
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAW56S



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

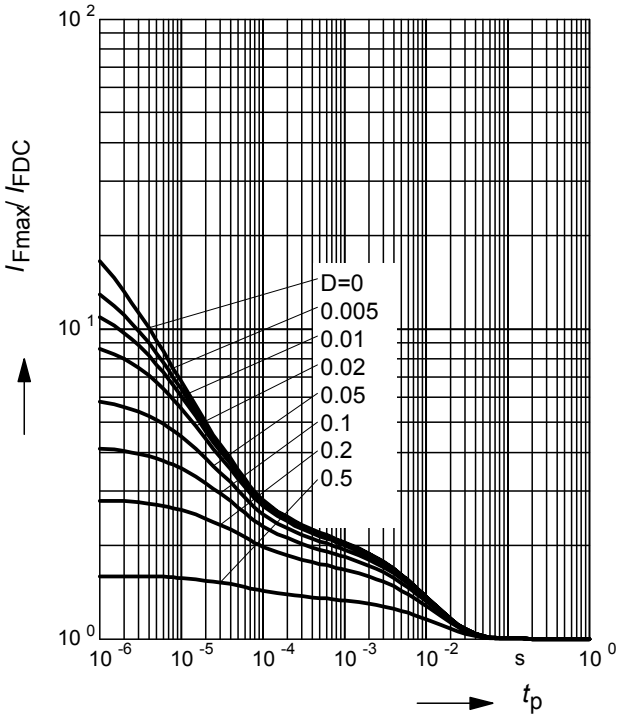
BAW56T



Permissible Pulse Load

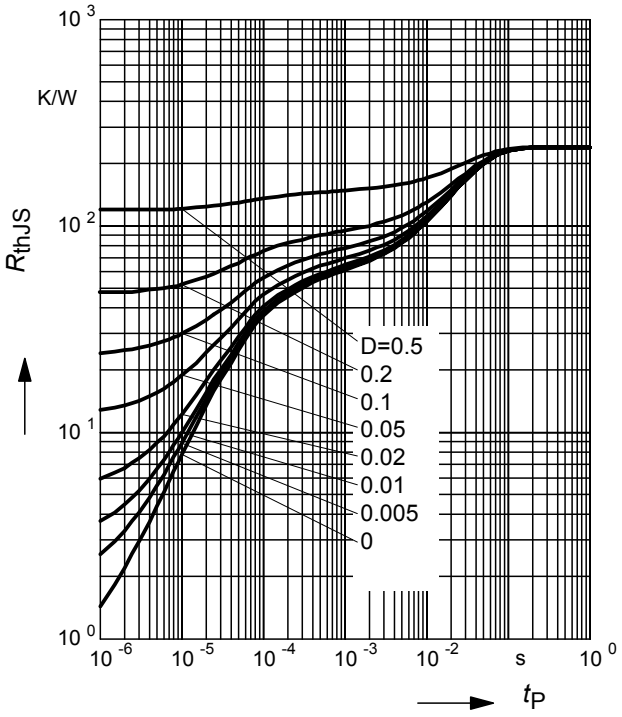
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAW56T



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

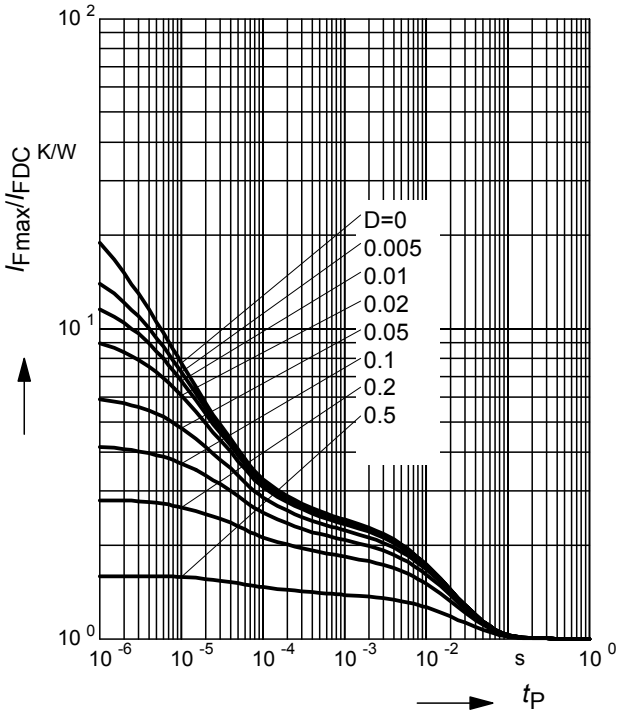
BAW56U



Permissible Pulse Load

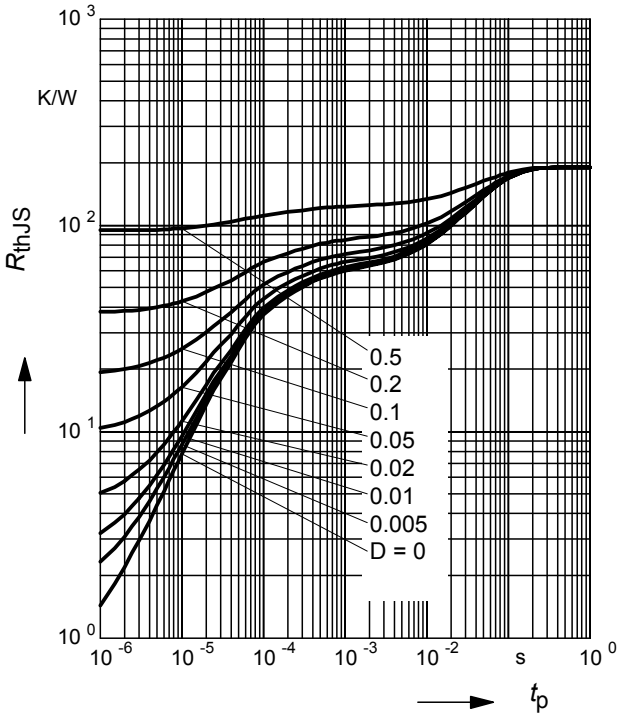
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAW56U



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

BAW56W



Permissible Pulse Load

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

BAW56W