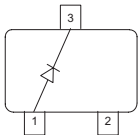


Silicon Schottky Diodes

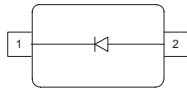
- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Integrated diffused guard ring
- Low forward voltage



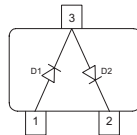
BAT64



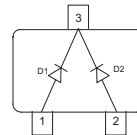
BAT64-02V BAT64-02W



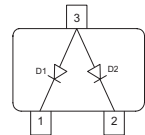
BAT64-04 BAT64-04W



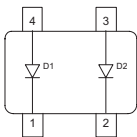
BAT64-05 BAT64-05W



BAT64-06 BAT64-06W



BAT64-07



ESD: Electrostatic discharge sensitive device, observe handling precaution!

Type	Package	Configuration	L_S (nH)	Marking
BAT64	SOT23	single	1.8	63s
BAT64-02V*	SC79	single	0.6	t
BAT64-02W	SCD80	single	0.6	64
BAT64-04	SOT 23	series	1.8	64s
BAT64-04W	SOT323	series	1.4	64s
BAT64-05	SOT23	common cathode	1.8	65s
BAT64-05W	SOT323	common cathode	1.4	65s
BAT64-06	SOT23	common anode	1.8	66s
BAT64-06W	SOT323	common anode	1.4	66s
BAT64-07	SOT143	parallel pair	2	67s

* Preliminary data

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	40	V
Forward current	I_F	250	mA
Non-repetitive peak surge forward current ($t \leq 10\text{ms}$)	I_{FSM}	800	
Average forward current (50/60Hz, sinus)	I_{FAV}	120	
Total power dissipation	P_{tot}		mW
BAT64, $T_S \leq 86^\circ\text{C}$		250	
BAT64-02V, BAT64-02W, $T_S \leq 121^\circ\text{C}$		250	
BAT64-04, BAT64-06, BAT64-07, $T_S \leq 61^\circ\text{C}$		250	
BAT64-04W, BAT64-06W, $T_S \leq 111^\circ\text{C}$		250	
BAT64-05, $T_S \leq 36^\circ\text{C}$		250	
BAT64-05W, $T_S \leq 104^\circ\text{C}$		250	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BAT64		≤ 255	
BAT64-02V, BAT64-02W		≤ 115	
BAT64-04, BAT64-06, BAT64-07		≤ 355	
BAT64-04W, BAT64-06W		≤ 155	
BAT64-05		≤ 455	
BAT64-05W		≤ 185	

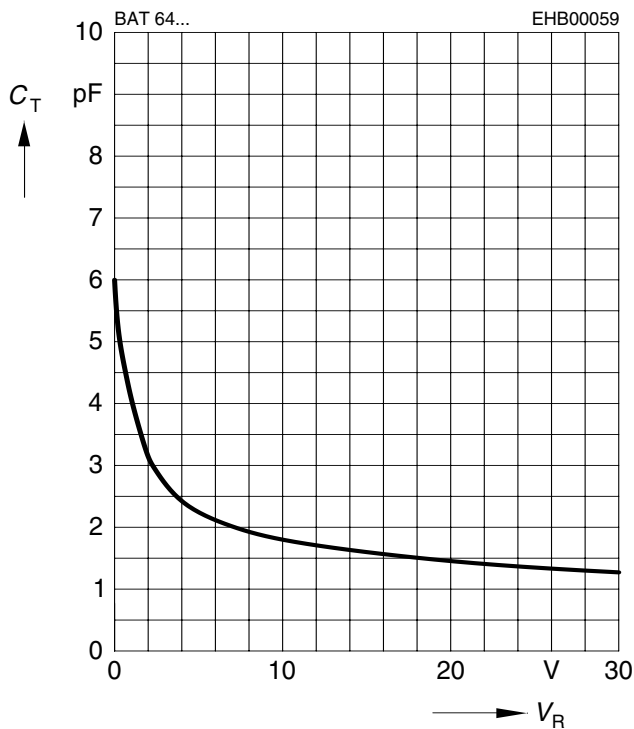
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 10\ \mu\text{A}$	$V_{(BR)}$	40	-	-	V
Reverse current $V_R = 30\ \text{V}$ $V_R = 30\ \text{V}, T_A = 85\ ^\circ\text{C}$	I_R	- -	- -	2 200	μA
Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 30\ \text{mA}$ $I_F = 100\ \text{mA}$	V_F	270 310 370 500	320 385 440 570	350 430 520 750	mV
AC Characteristics					
Diode capacitance $V_R = 1\ \text{V}, f = 1\ \text{MHz}$	C_T	-	4	6	pF
Reverse recovery time $I_F = 10\ \text{mA}, I_R = 10\ \text{mA}$, measured $I_R = 1\ \text{mA}$, $R_L = 100\ \Omega$	t_{rr}	-	-	5	ns

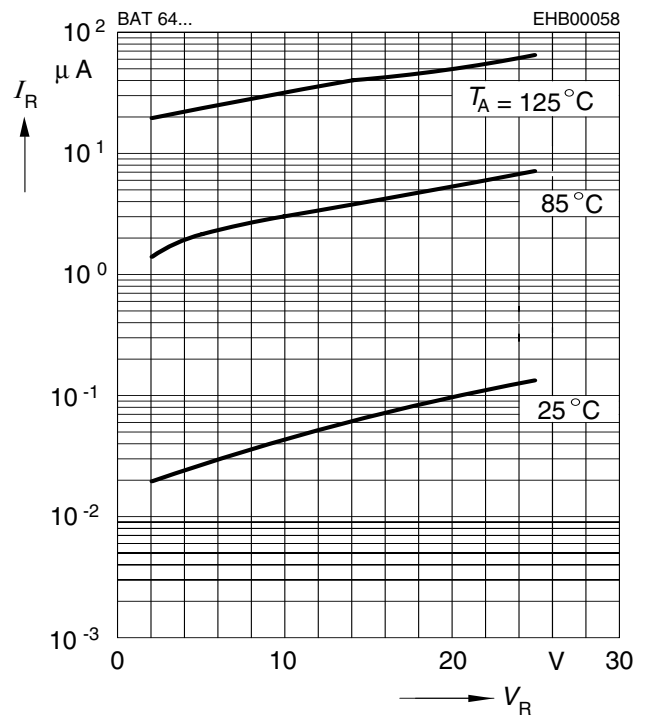
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



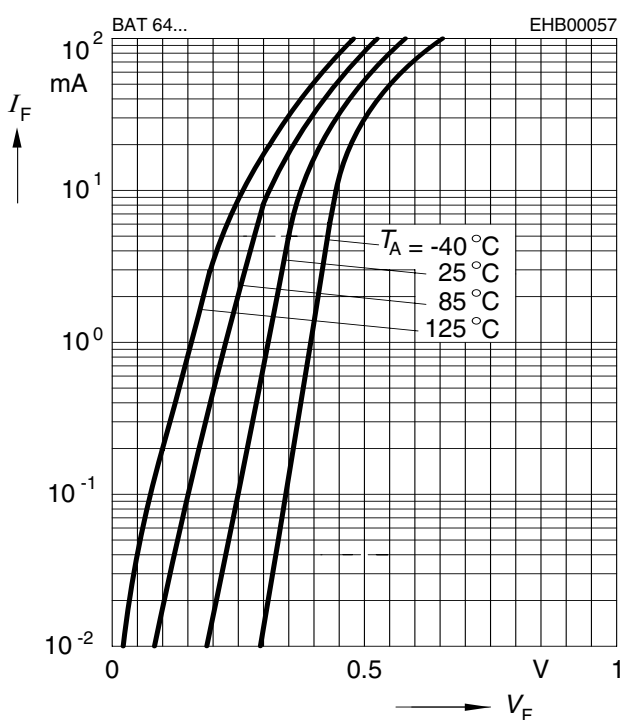
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



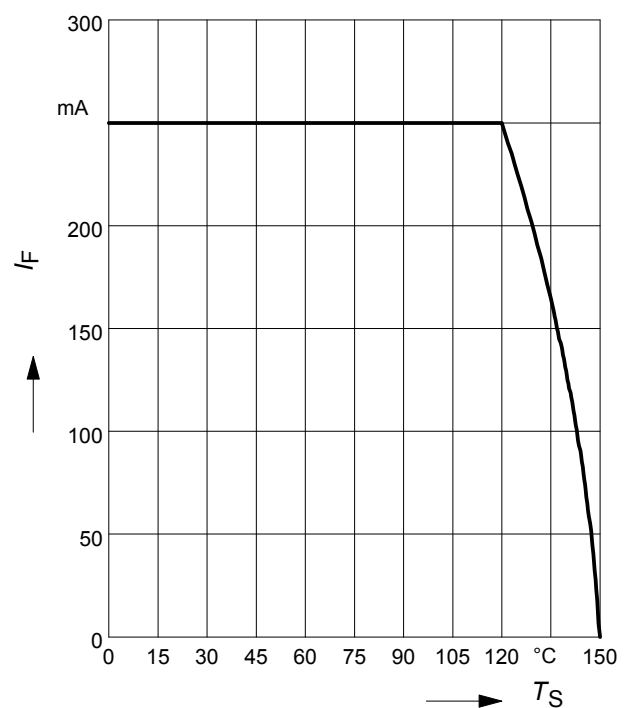
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



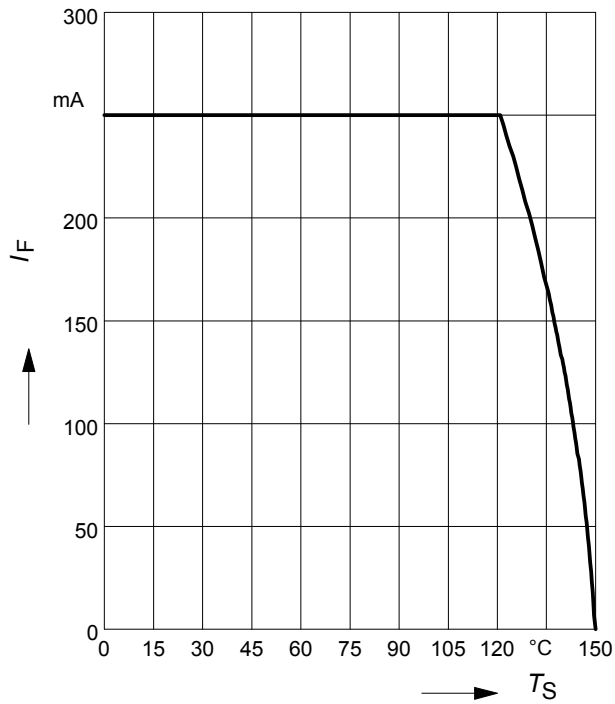
Forward current $I_F = f(T_S)$

BAT64W



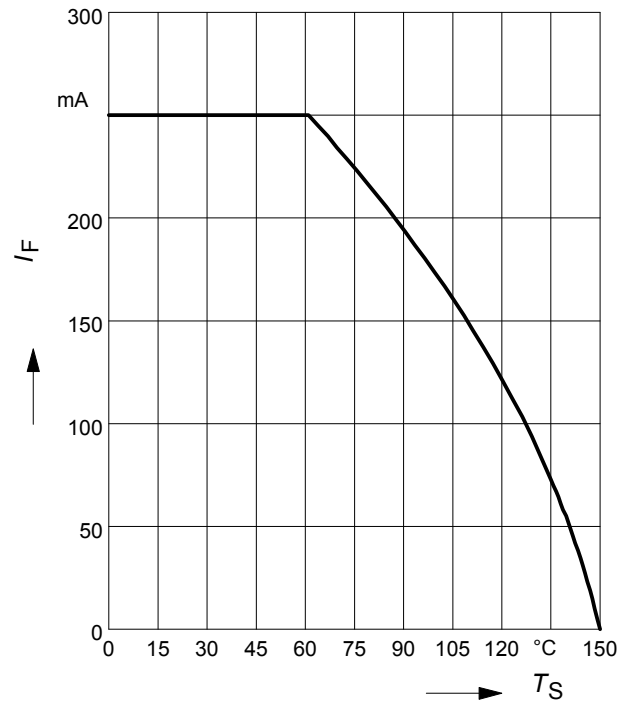
Forward current $I_F = f(T_S)$

BAT64-02V, BAT64-02W



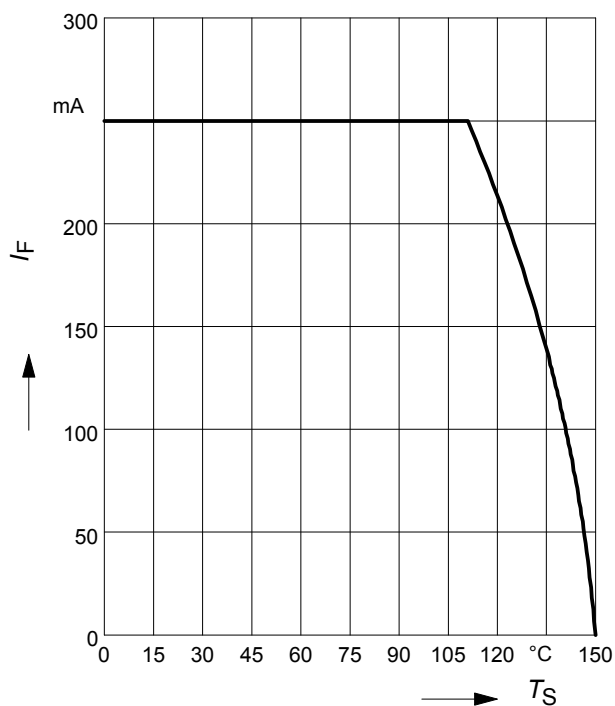
Forward current $I_F = f(T_S)$

BAT64-04, BAT64-06, BAT64-07



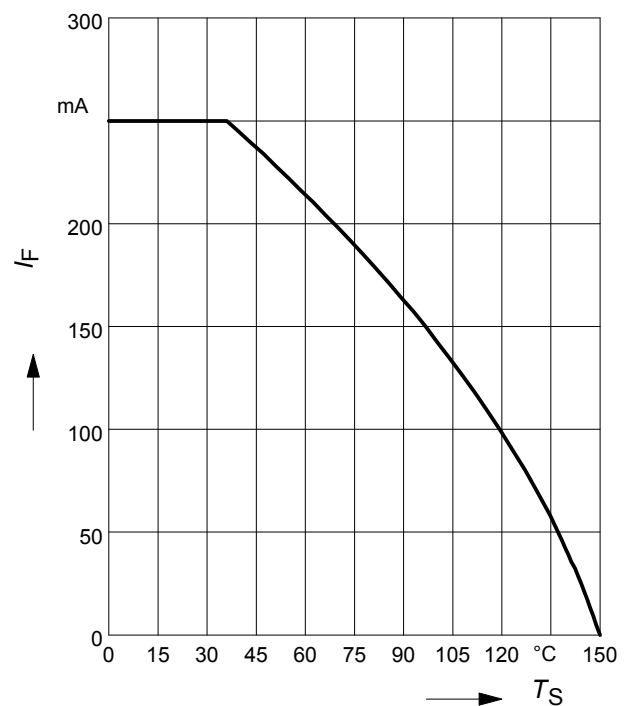
Forward current $I_F = f(T_S)$

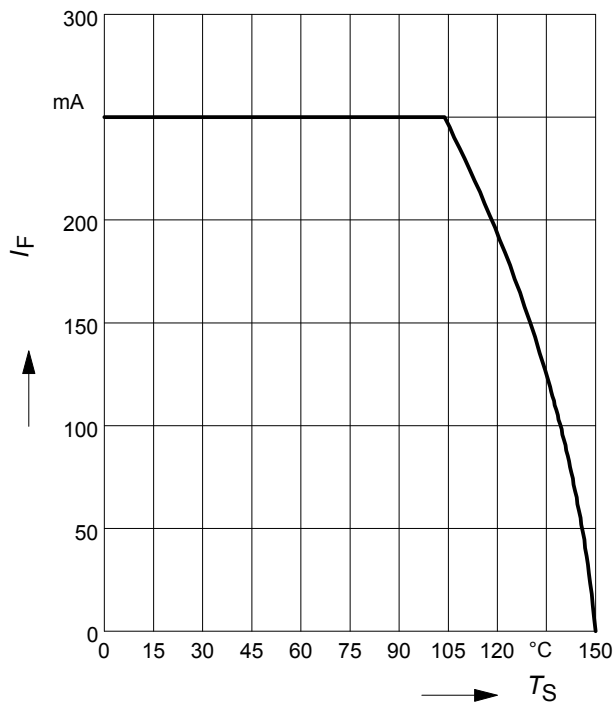
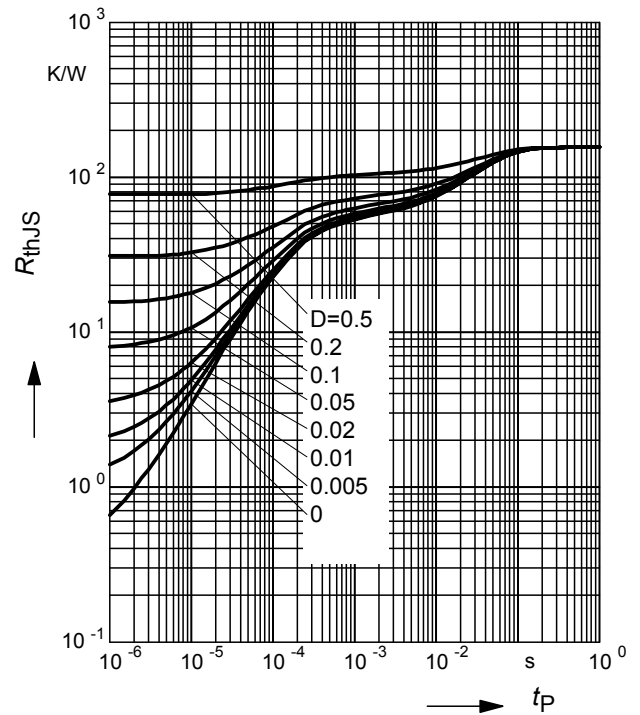
BAT64-04W, BAT64-06W



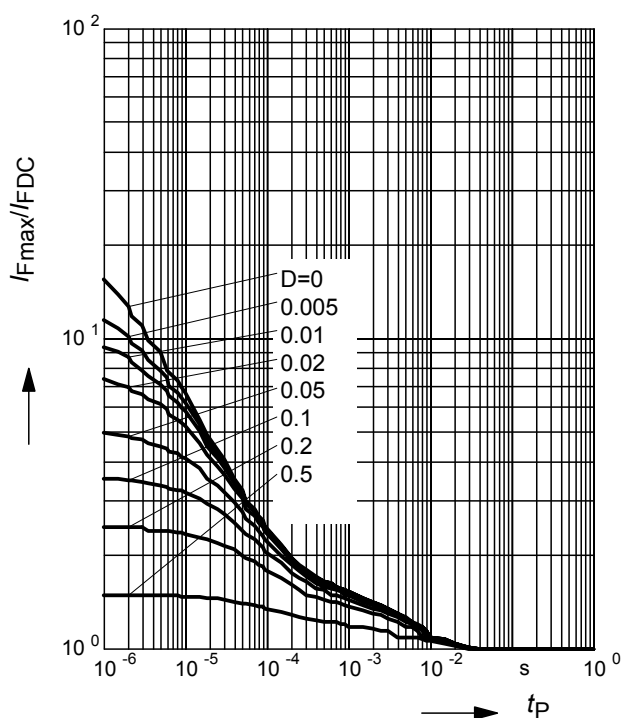
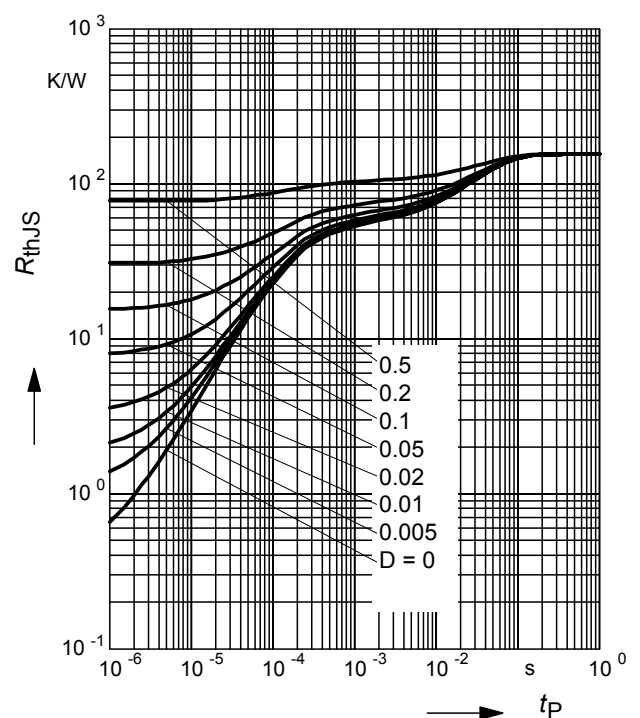
Forward current $I_F = f(T_S)$

BAT64-05



Forward current $I_F = f(T_S)$
BAT64-05W

Permissible Puls Load $R_{thJS} = f(t_p)$
BAT64-02V, BAT64-02W

Permissible Pulse Load

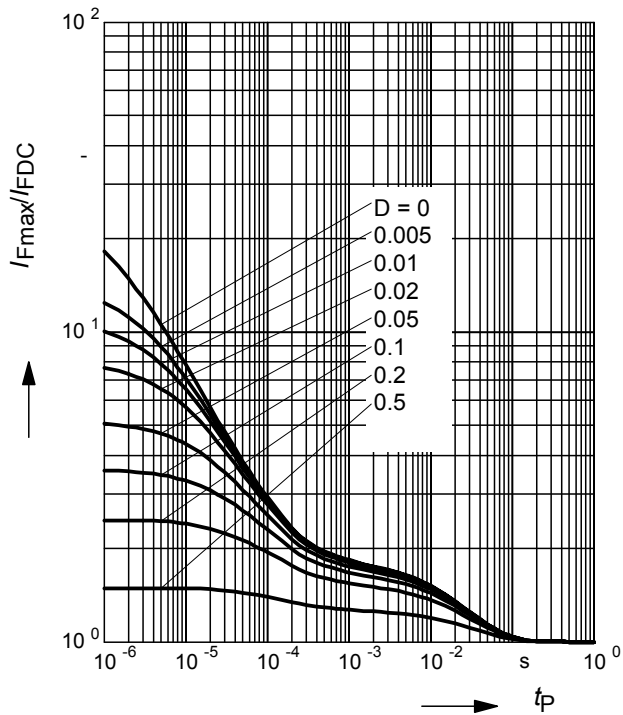
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT64-02V, BAT64-02W

Permissible Puls Load $R_{thJS} = f(t_p)$
BAT64-04W, BAT64-06W


Permissible Pulse Load

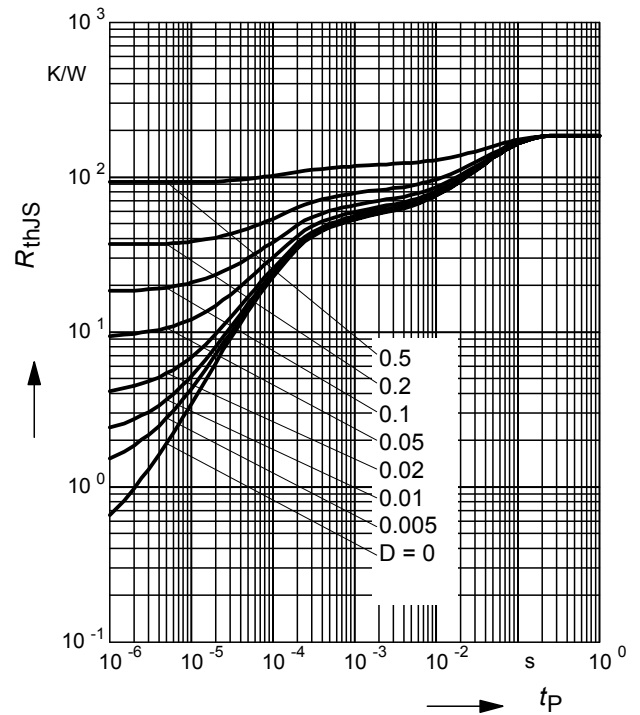
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT64-04W, BAT64-06W



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

BAT64-05W



Permissible Pulse Load

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

BAT64-05W

