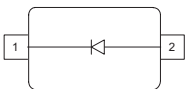


Silicon Schottky Diode

- High current rectifier Schottky diode with very low V_F drop (typ. 0.24 V at $I_F = 10\text{mA}$)
- For power supply applications
- For clamping and protection in low voltage applications
- For detection and step-up-conversion



BAT60B



ESD: Electrostatic discharge sensitive device, observe handling precaution!

Type	Package	Configuration	Marking
BAT60B	SOD323	single	white/5

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

Parameter	Symbol	Value	Unit
Diode reverse voltage ¹⁾	V_R	10	V
Forward current	I_F	3	A
Non-repetitive peak surge forward current ($t \leq 10\text{ms}$)	I_{FSM}	5	
Total power dissipation $T_S \leq 28^\circ\text{C}$	P_{tot}	1350	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ²⁾	R_{thJS}	≤ 90	K/W

¹For $T_A > 25^\circ\text{C}$ the derating of V_R has to be considered. Please refer to curve Permissible reverse voltage.

²For calculation of R_{thJA} please refer to Application Note Thermal Resistance

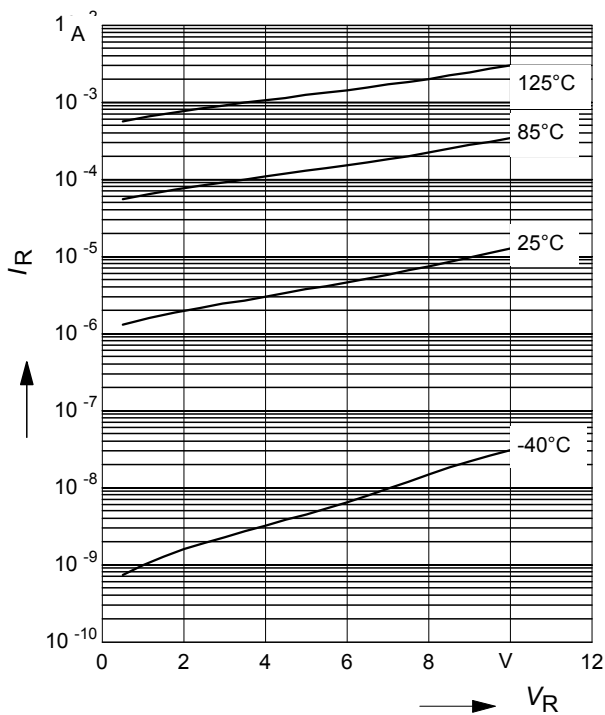
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current ¹⁾	I_R				μA
$V_R = 5\text{ V}$		-	5	15	
$V_R = 8\text{ V}$		-	10	25	
$V_R = 5\text{ V}, T_A = 80^\circ\text{C}$		-	100	800	
$V_R = 8\text{ V}, T_A = 80^\circ\text{C}$		-	410	1500	
Forward voltage ¹⁾	V_F				V
$I_F = 10\text{ mA}$		0.2	0.24	0.3	
$I_F = 100\text{ mA}$		0.26	0.32	0.38	
$I_F = 500\text{ mA}$		0.32	0.4	0.5	
$I_F = 1000\text{ mA}$		0.36	0.48	0.6	
AC Characteristics					
Diode capacitance	C_T	12	25	30	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

¹⁾Pulsed test: $t_p = 300\ \mu\text{s}; D = 0.01$

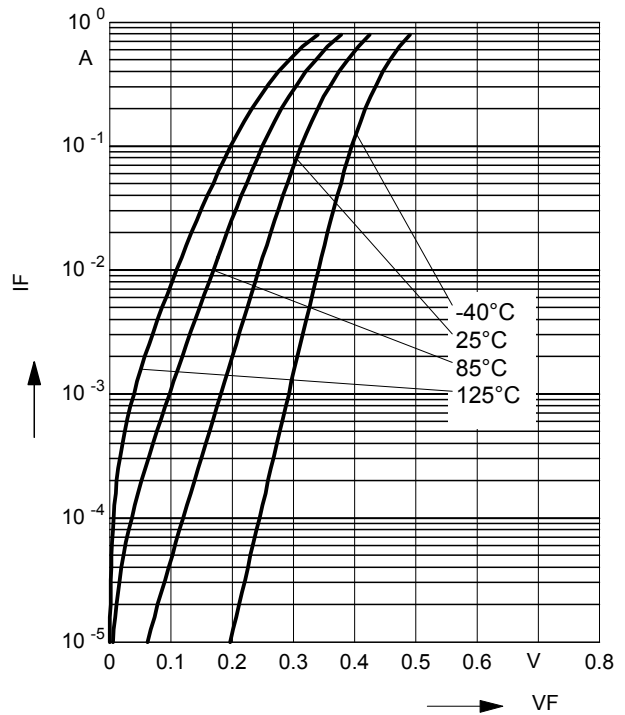
Reverse current $I_R = f(V_R)$

$T_A =$ Parameter



Forward current $I_F = f(V_F)$

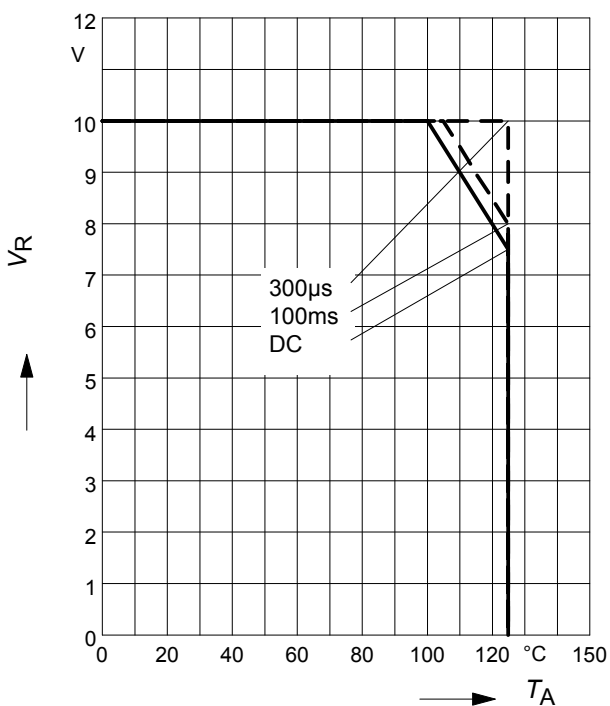
$T_A =$ Parameter



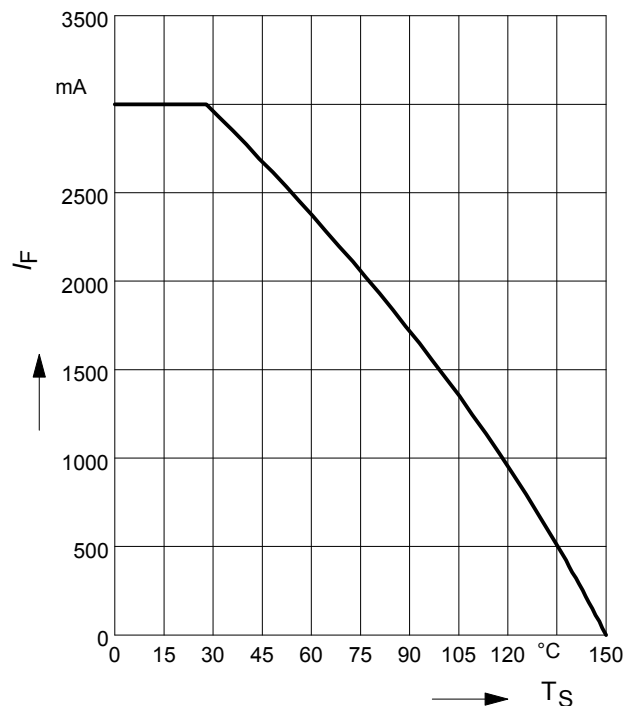
Permissible Reverse voltage $V_R = f(T_A)$

$t_p =$ Parameter; duty cycle < 0.01

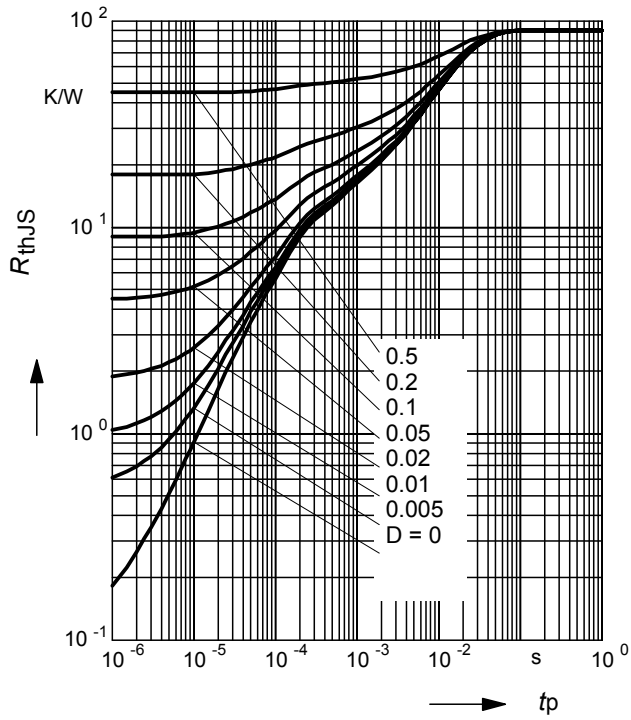
Device mounted on PCB with $R_{th} = 160$ K/W



Forward current $I_F = f(T_S)$



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



Permissible Pulse Load

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

