Silicon Schottky Diode
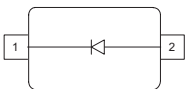
- High current rectifier Schottky diode with very low V_F drop (typ. 0.24 V at I_F = 10mA)

- For power supply applications

- For clamping and protection in low voltage applications

- For detection and step-up-conversion

BAT60B

ESD: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precaution!

Type	Package	Configuration	Marking
BAT60B	SOD323	single	white/5

Maximum Ratings at T_A = 25°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 ($t \leq$ 10ms)	I_{FSM}	5	
Total power dissipation $T_S \leq$ 28°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}	$\leq$ 90	K/W

[1]For T_A > 25 °C the derating of V_R has to be considered. Please refer to curve Permissible reverse voltage.

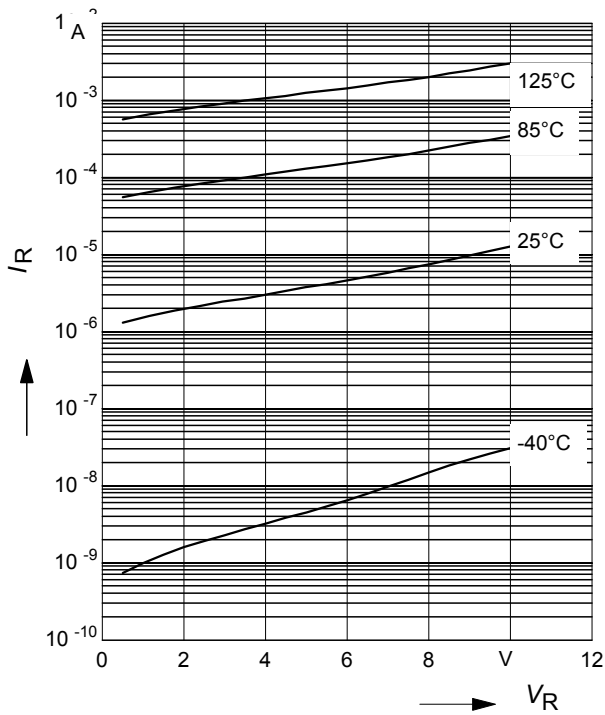[2]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

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

[1]Pulsed test: t_p = 300 µs; D = 0.01
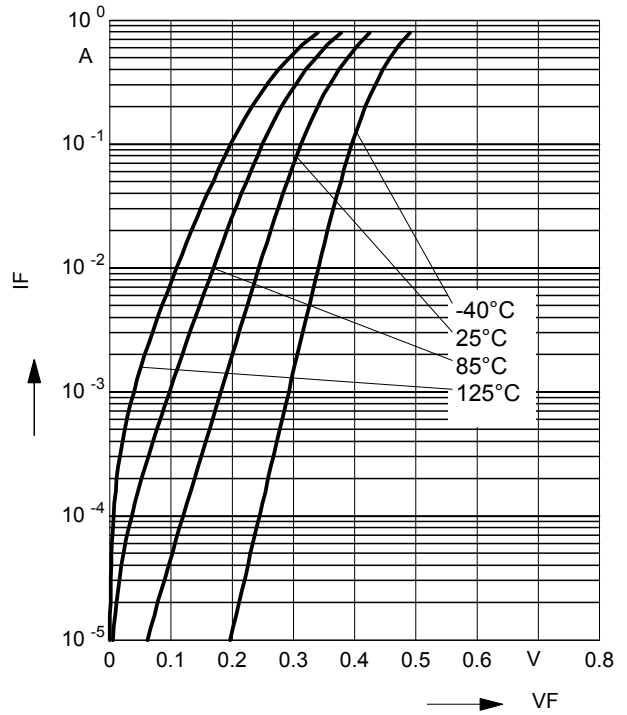
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Reverse current $I_R = f(V_R)$

T_A = Parameter

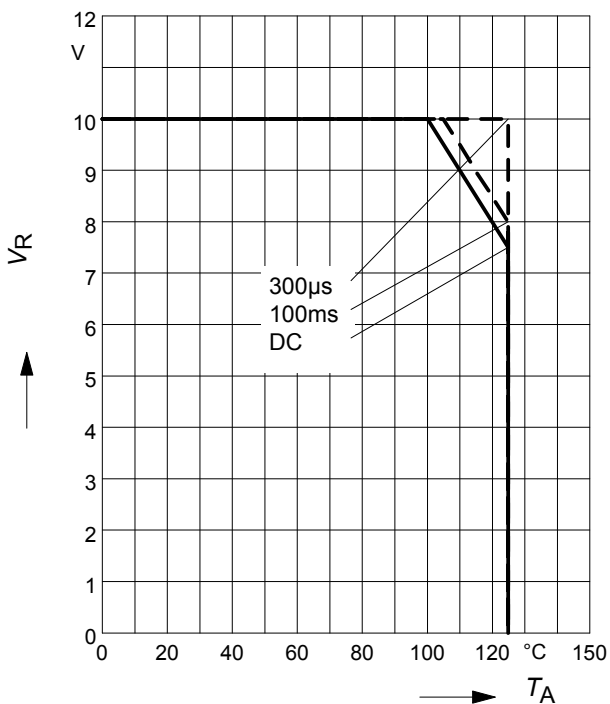
Forward current $I_F = f(V_F)$
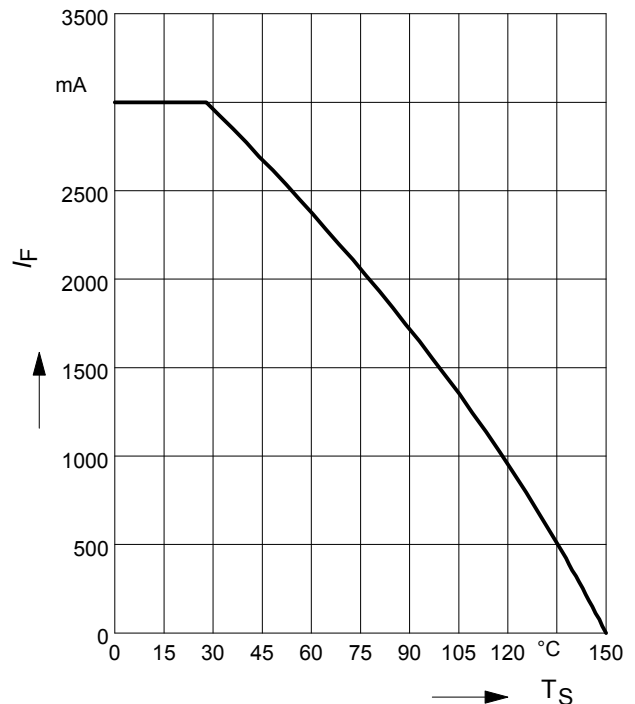
T_A = Parameter

Permissible Reverse voltage $V_R = f(T_A)$
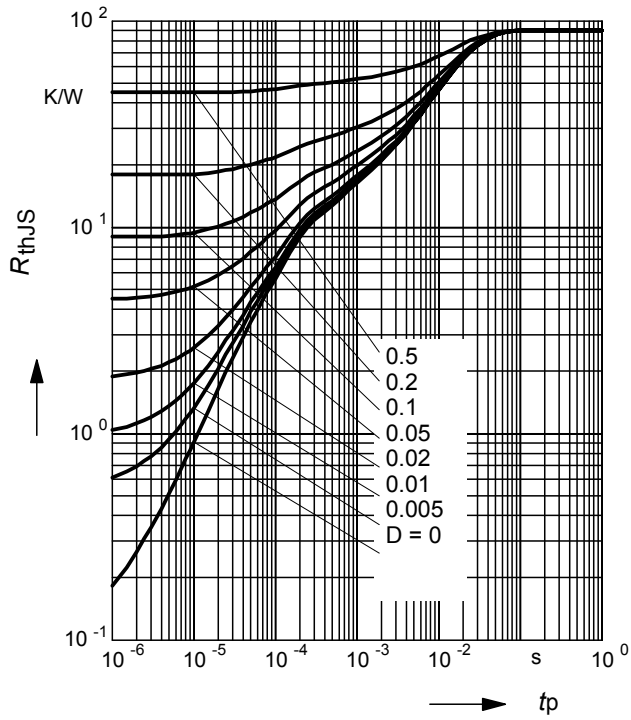
t_p = Parameter; duty cycle < 0.01

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

Forward current $I_F = f(T_S)$

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Permissible Puls Load $R_{\text{thJS}} = f\,(t_{\text{p}})$

Permissible Pulse Load

$I_{\text{Fmax}}/\,I_{\text{FDC}} = f\,(t_{\text{p}})$

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