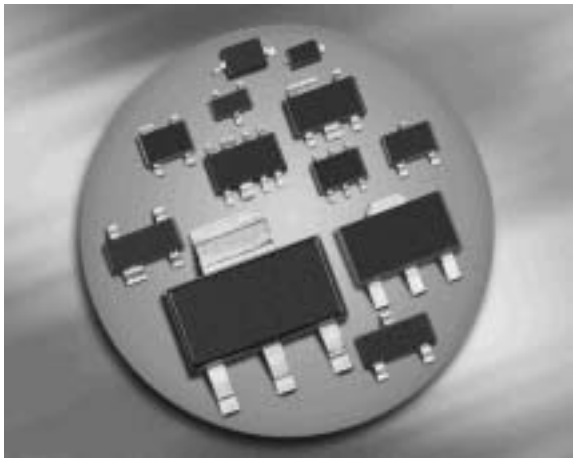
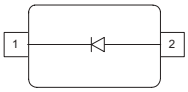
Medium Power AF Schottky Diode

- Forward current: 1 A
- Reverse voltage: 30 V
- Low forward voltage, low reverse current
- For high efficiency DC/DC conversion, fast switching, protection and clamping applications
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



AEC Qualified RoHS

BAS3010B-03W



Type	Package	Configuration	Marking
BAS3010B-03W	SOD323	single	2/ red

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage[2)]	V_R	30	V
Forward current[2)]	I_F	1	A
Average rectified forward current (50/60Hz, sinus)	I_{FAV}	1	
Repetitive peak forward current ($t_p \leq 1$ ms, $D \leq 0.5$)	I_{FRM}	3.5	
Non-repetitive peak surge forward current ($t \leq 10$ ms)	I_{FSM}	10	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-65 ... 125	
Storage temperature	T_{stg}	-65 ... 150	

[1]Pb-containing package may be available upon special request

[2] For T_A > 25°C the derating of V_R and I_F has to be considered. Please refer to the attached curves.

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}	≤ 82	K/W

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

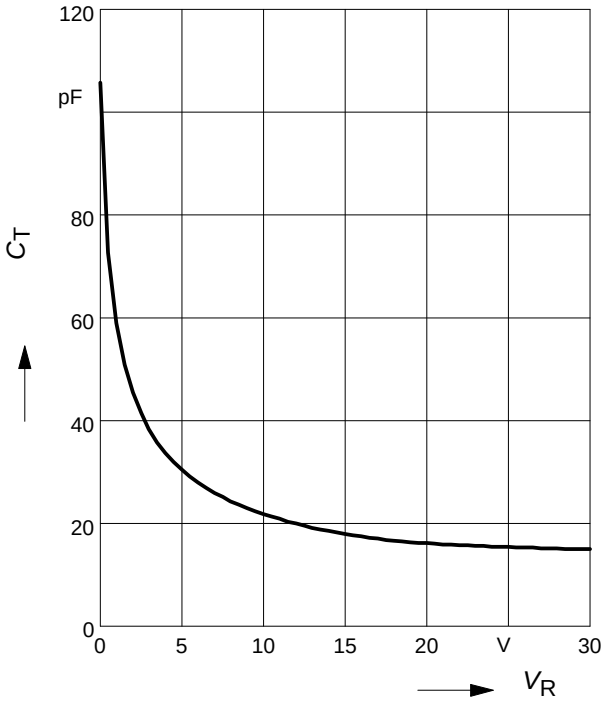
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current[2)]	I_R				µA
V_R = 5 V		-	-	5	
V_R = 10 V		-	-	10	
V_R = 30 V		-	-	20	
Forward voltage[2)]	V_F				mV
I_F = 1 mA		-	230	280	
I_F = 10 mA		-	300	350	
I_F = 100 mA		-	360	420	
I_F = 500 mA		-	420	480	
I_F = 1 A		-	480	550	
AC Characteristics					
Diode capacitance	C_T	-	33	40	pF
V_R = 5 V, f = 1 MHz					

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

[2]Pulsed test: t_p = 300 µs; D = 0.01

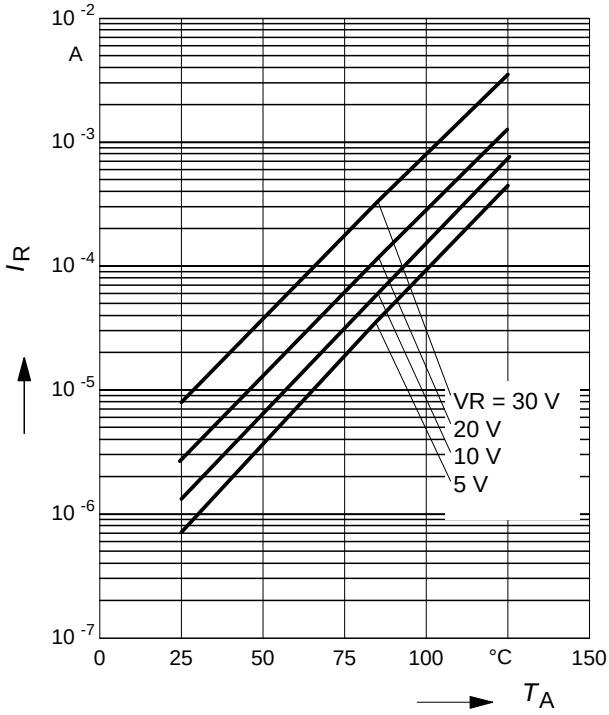
Diode capacitance $C_T = f(V_R)$

f = 1MHz



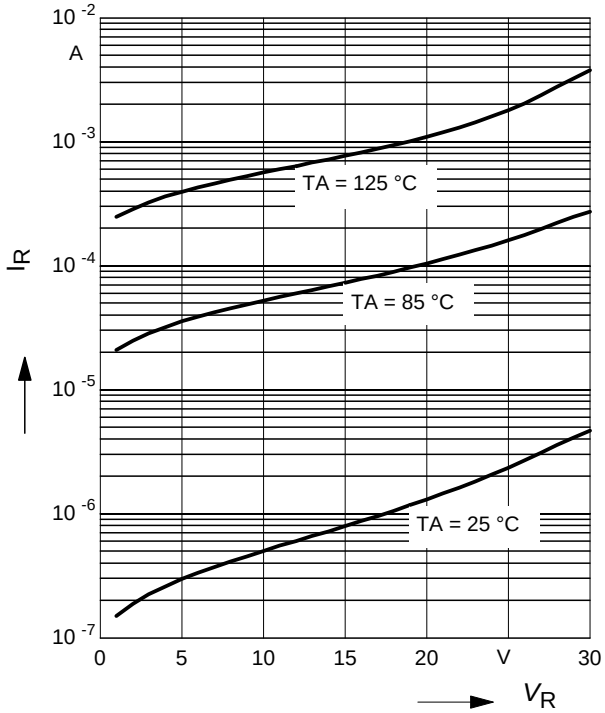
Reverse current $I_R = f(T_A)$

V_R = Parameter



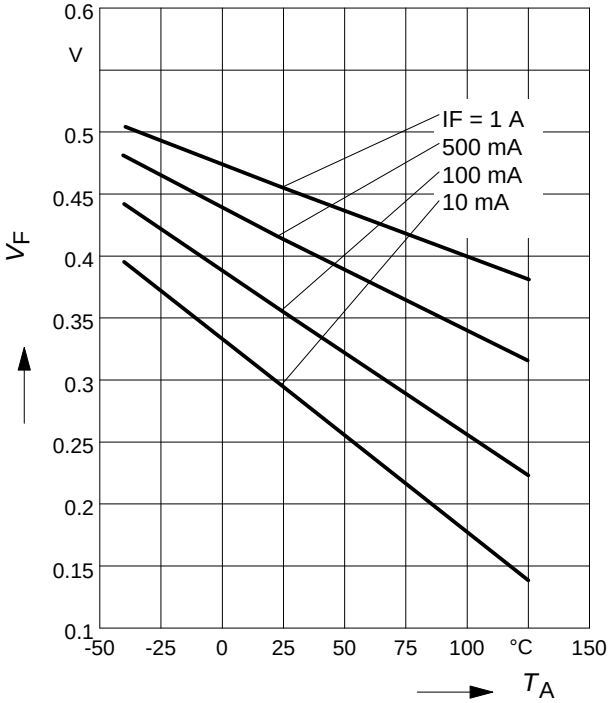
Reverse current $I_R = f(V_R)$

T_A = Parameter

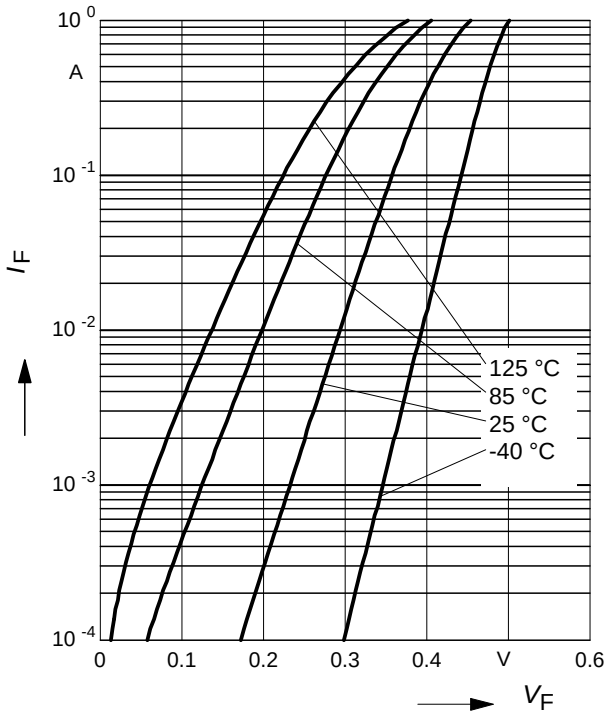


Forward Voltage $V_F = f(T_A)$

I_F = Parameter



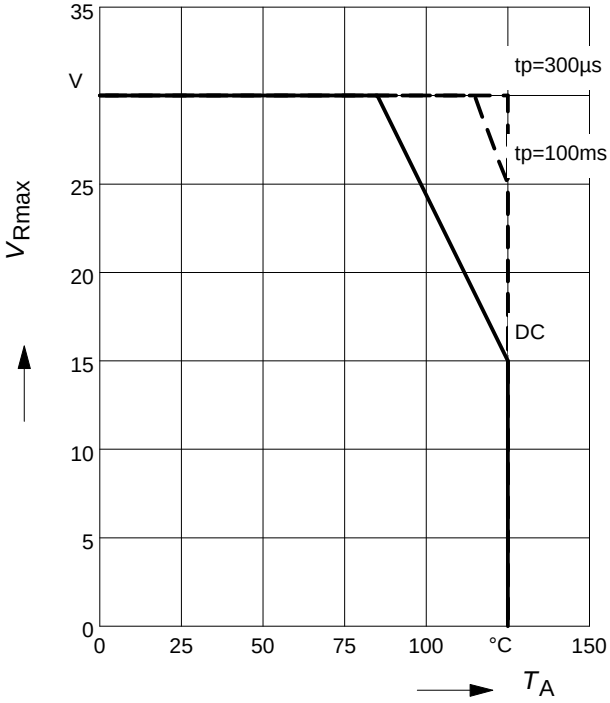
Forward current $I_F = f(V_F)$



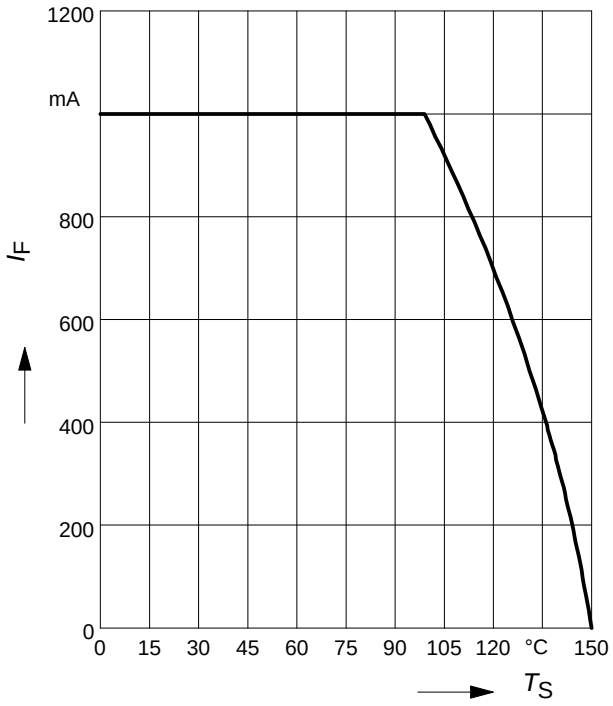
Permissible Reverse voltage $V_R = f(T_A)$

t_p = Parameter, Duty cycle < 0.01

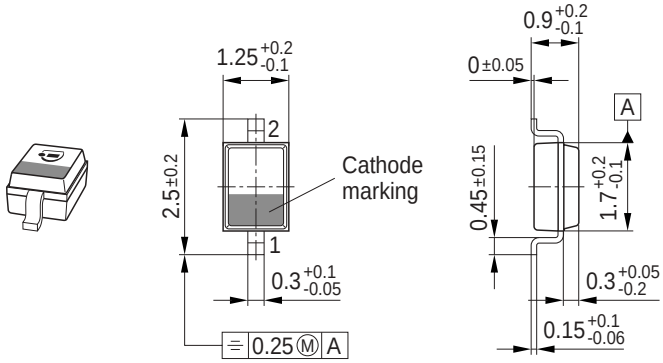
Device mounted on PCB with R_{th} = 160 k/W



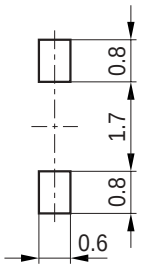
Forward current $I_F = f(T_S)$



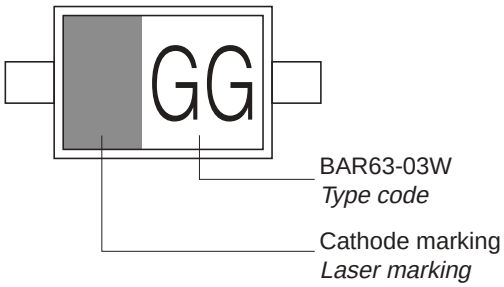
Package Outline



Foot Print

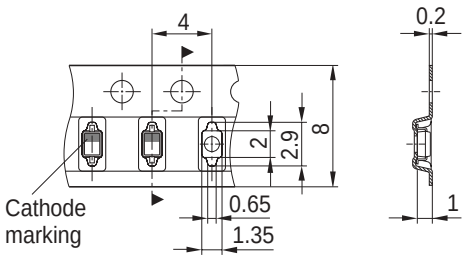


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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