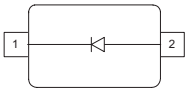


Medium Power AF Schottky Diode

- Forward current: 1 A
- Reverse voltage: 30 V
- Very low forward voltage
(typ. 0.41V @ $I_F = 1A$)
- For high efficiency DC/DC conversion,
fast switching, protection and
clamping applications
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101


BAS 3010A-03W


Type	Package	Configuration	Marking
BAS3010A-03W	SOD323	single	4/ blue

Maximum Ratings at $T_A = 25^\circ\text{C}$, 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 ($t_p \leq 1 \text{ ms}$, $D \leq 0.5$)	I_{FRM}	3.5	
Non-repetitive peak surge forward current ($t \leq 10\text{ms}$)	I_{FSM}	10	
Junction temperature	T_j	150	$^\circ\text{C}$
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 $T_A > 25^\circ\text{C}$ 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 $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Reverse current ²⁾	I_R				μA
$V_R = 5\text{ V}$		-	5	25	
$V_R = 10\text{ V}$		-	10	50	
$V_R = 30\text{ V}$		-	40	200	
Forward voltage ²⁾	V_F				mV
$I_F = 1\text{ mA}$		-	170	220	
$I_F = 10\text{ mA}$		-	220	270	
$I_F = 100\text{ mA}$		-	290	340	
$I_F = 500\text{ mA}$		-	350	410	
$I_F = 1\text{ A}$		-	410	470	

AC Characteristics

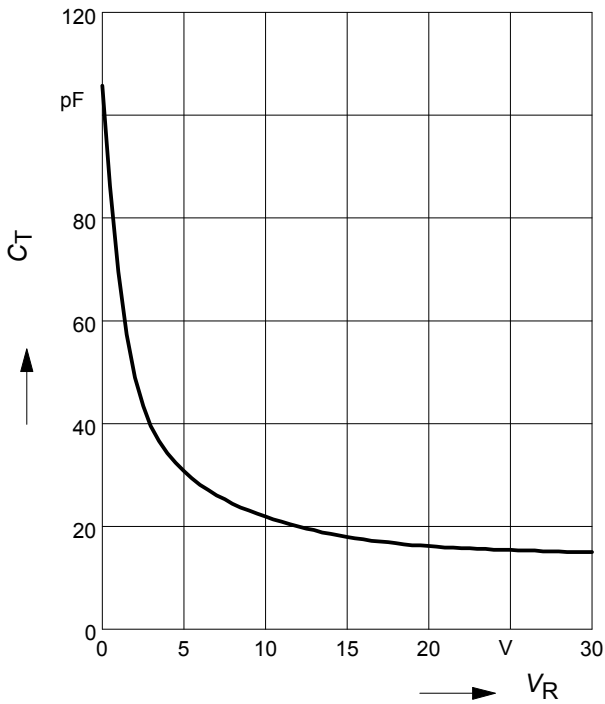
Diode capacitance	C_T	-	28	35	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

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

²⁾Pulsed test: $t_p = 300\ \mu\text{s}$; $D = 0.01$

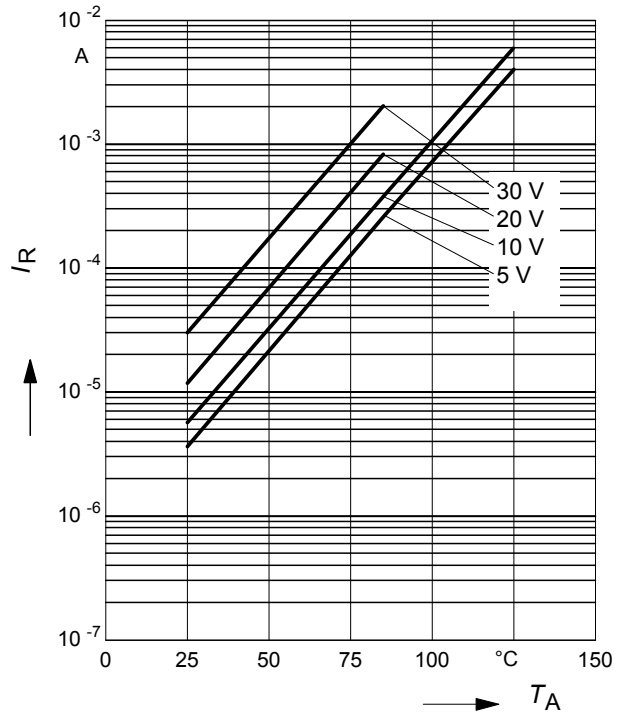
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



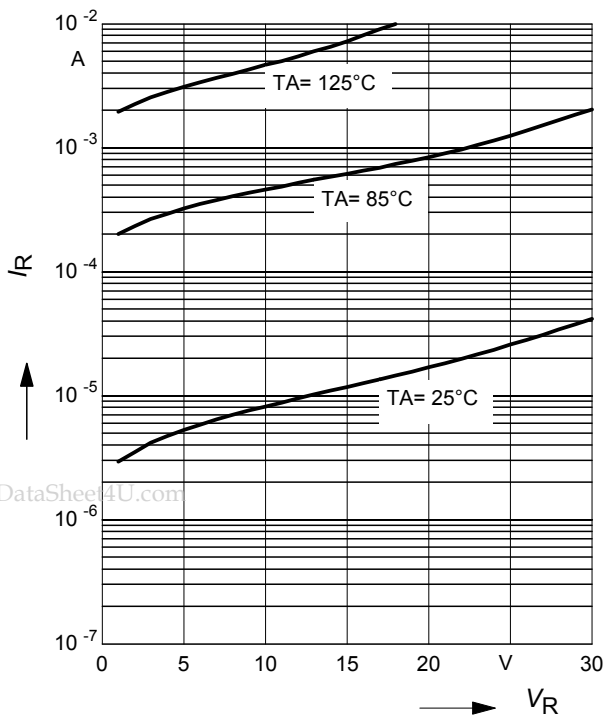
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



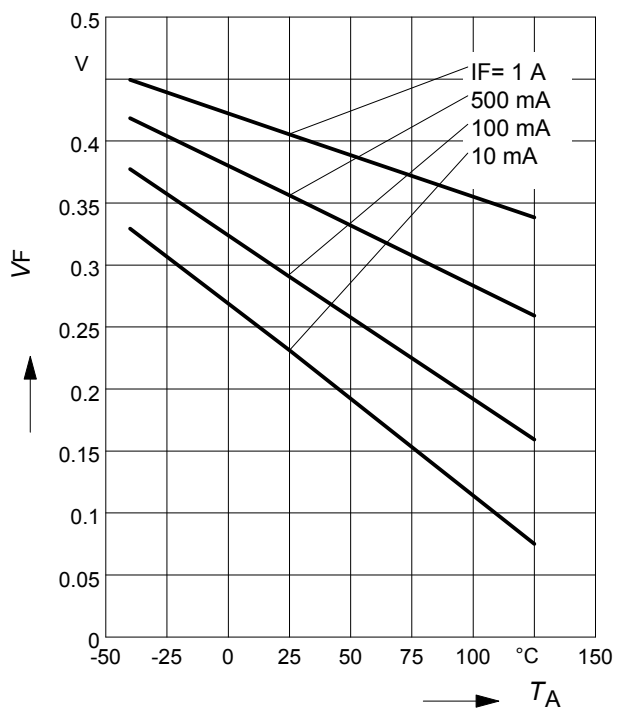
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



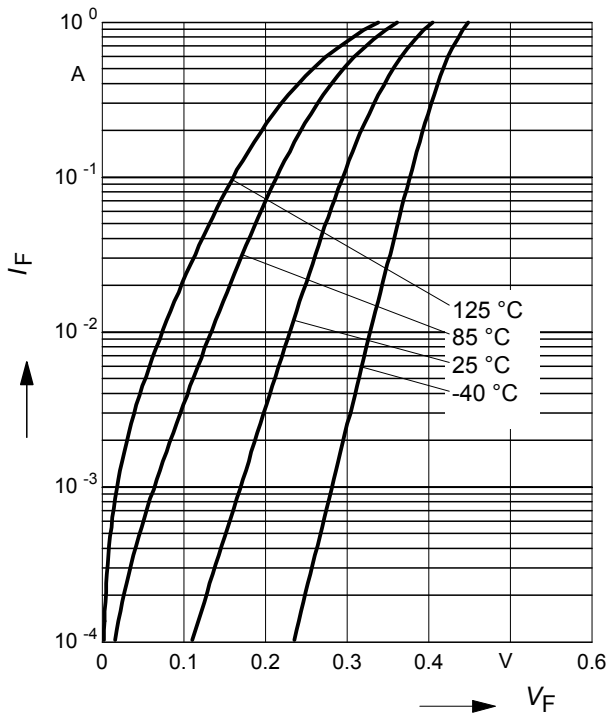
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



Forward current $I_F = f(V_F)$

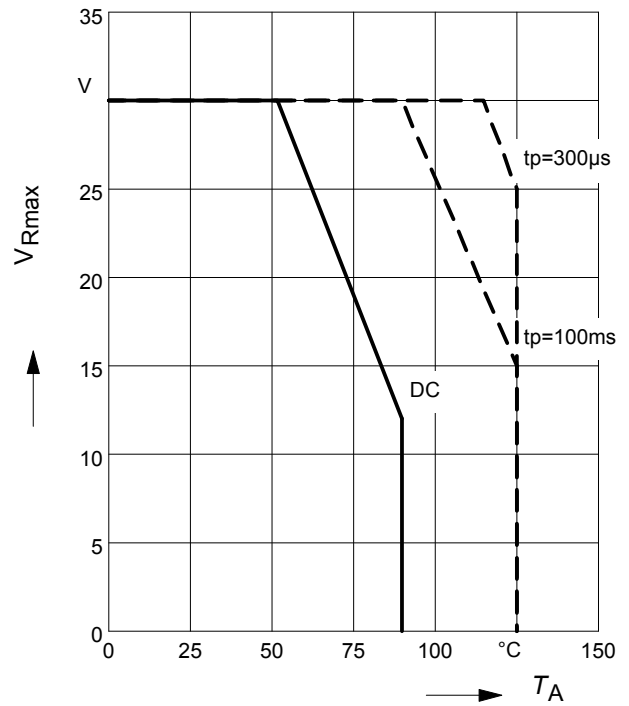
$T_A =$ Parameter



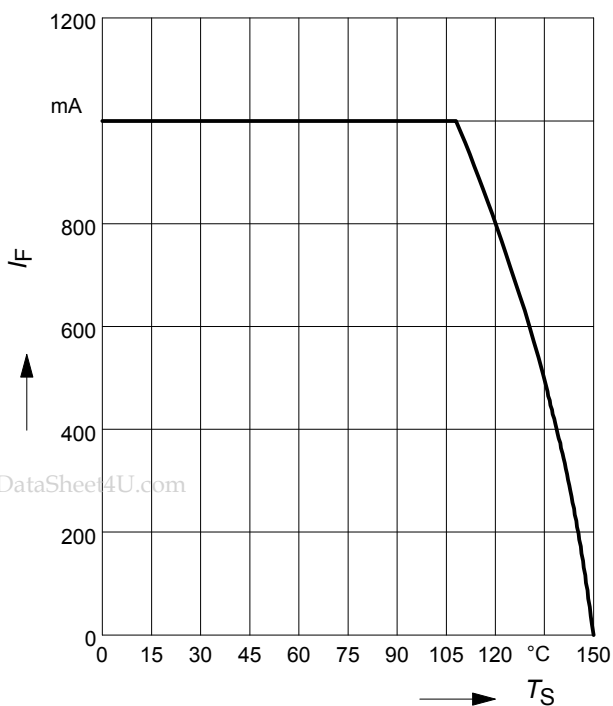
Permissible Reverse voltage $V_R = f(T_A)$

$t_p =$ Parameter, Duty cycle < 0.01

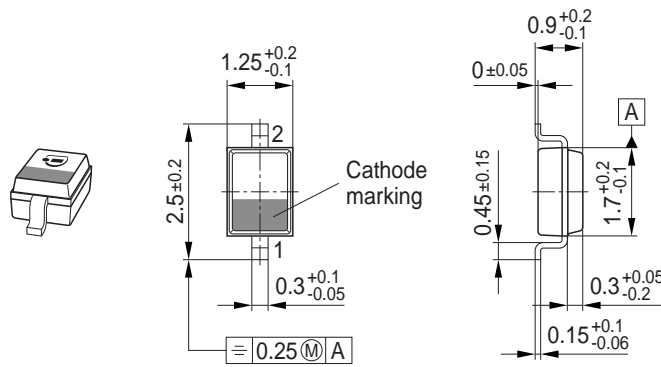
Device mounted on PCB with $R_{th} = 160 \text{ k/W}$



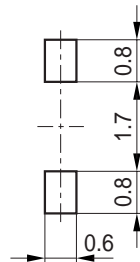
Forward current $I_F = f(T_S)$



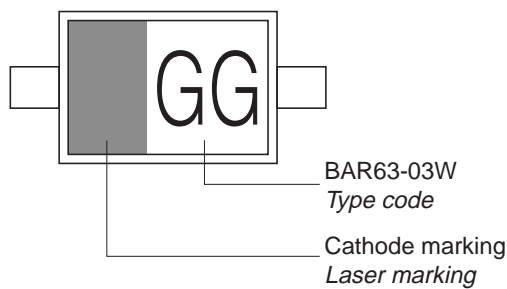
Package Outline



Foot Print



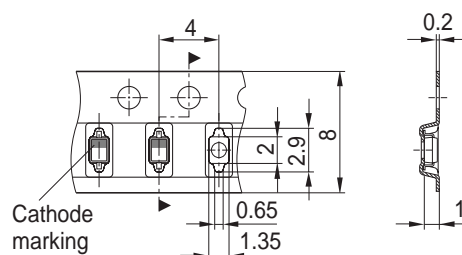
Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel

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