

Features

- High Switching Speed
- For General Purpose Switching Applications
- Surface Mount Package
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 833°C/W Junction to Ambient(Note 2)

MCC Part Number	Repetitive Peak Reverse Voltage V_{RRM}	RMS Reverse Voltage $V_{R(RMS)}$	DC Blocking Voltage V_R
BAS516	100V	71V	100V

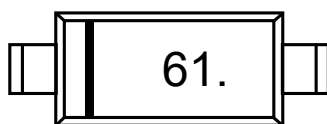
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	0.25A	
Peak Forward Surge Current	I_{FSM}	4A 1A 0.5A	@ t=1us @ t=1ms @ t=1s
Power Dissipation	P_D	150mW	

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

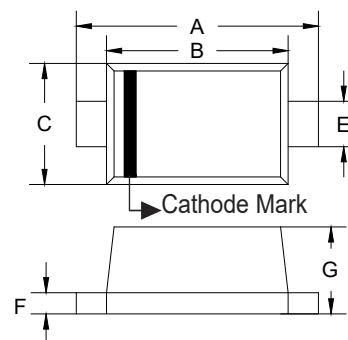
2. Part mounted on FR-4 board with recommended pad layout.

Internal Structure and Marking Code



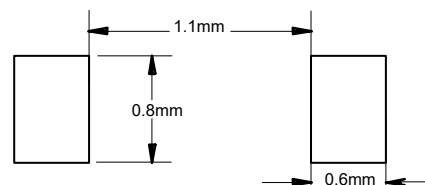
Switching Diode

SOD-523



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.059	0.067	1.50	1.70	
B	0.043	0.051	1.10	1.30	
C	0.030	0.033	0.75	0.85	
E	0.010	0.014	0.25	0.35	
F	0.003	0.008	0.08	0.20	
G	0.020	0.026	0.50	0.65	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F	$I_F=1\text{mA}$			0.715	V
		$I_F=10\text{mA}$			0.855	V
		$I_F=50\text{mA}$			1	V
		$I_F=150\text{mA}$			1.25	V
Reverse Current	I_R	$V_R=25\text{V}$			30	nA
		$V_R=75\text{V}$			1	μA
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		1		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mA},$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$			4	ns

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

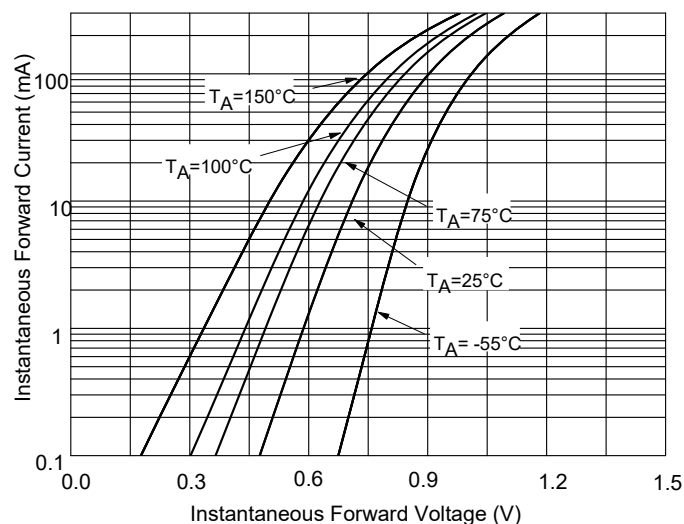


Fig. 2 - Typical Reverse Leakage Characteristics

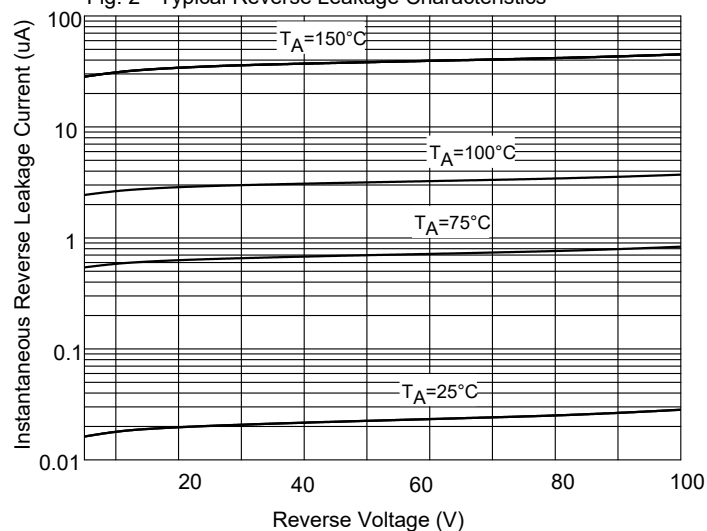


Fig. 3 - Capacitance Characteristics

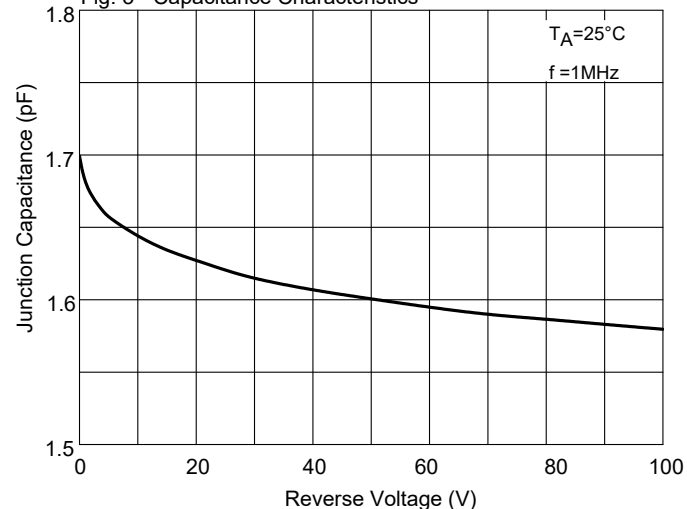
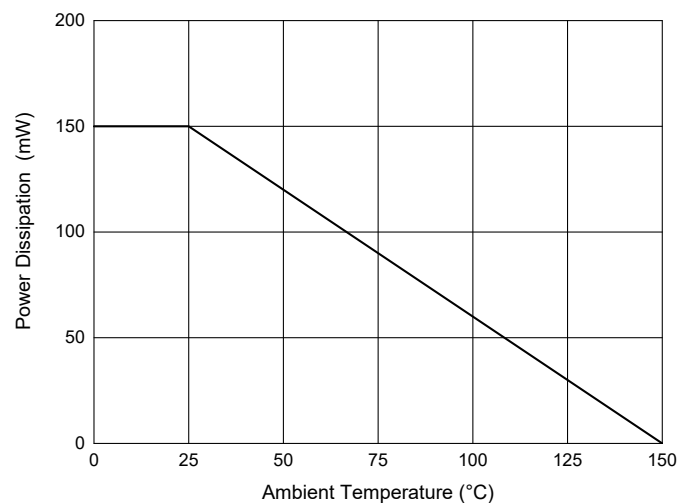


Fig. 4 - Power Derating Curve



Ordering Information

Device	Packing
BAS516-TP	Tape&Reel: 8Kpcs/Reel
BAS516-T3P	Tape&Reel: 3Kpcs/Reel

For packaging details, go to our website at <https://www.mccsemi.com/pdf/productpackaging/SOD-523%20Package.pdf>

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