Features

- Ideally Suited For Automatic Insertion
- Fast Switching Speed
- Epitaxial Planar Die Construction
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Mechanical Data

- Weight: 0.008 Grams (Approx.)

Maximum Ratings

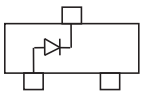
- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 357°C/W Junction to Ambient

MCC Part Number	Device Marking	Repetitive Peak Reverse Voltage V_{RRM}	Continuous Reverse Voltage V_R
BAS19	JP	120V	120V
BAS20	JR	200V	200V
BAS21	JS	250V	250V

Average Rectified Forward Current	$I_{F(AV)}$	225mA	(Note 2)
Forward continuous current	I_{FM}	400mA	T_A=25°C (Note 2)
Non-repetitive Peak Forward Surge Current	I_{FSM}	9.0A 2.0A 0.5A	@ t=1μs @ 1/2 Cycle, Sine Wave, 60 Hz @ t=1s
Repetitive Peak Forward Curren	I_{FRM}	625mA	
Power Dissipation	P_{TOT}	350mW	T_A=25°C

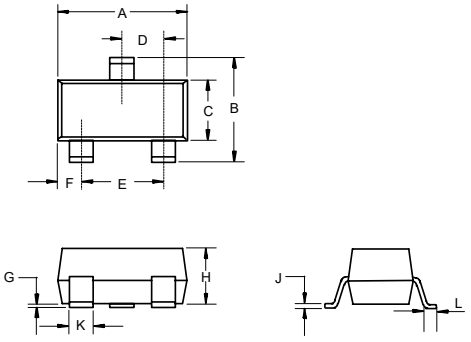
Note:
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Mounted on FR-4 board with recommended pad layout.

Internal Structure



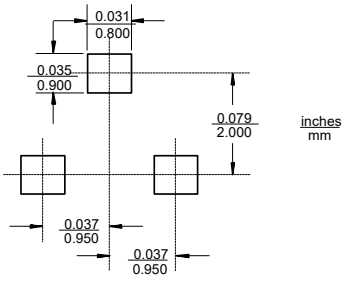
350mW Small Signal Diodes

SOT-23



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.014	0.020	0.35	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F	I_F=100mA			1	V
		I_F=200mA			1.25	V
Reverse Current	I_R	V_R=V_{Rmax}			100	nA
		V_R=V_{Rmax}, T_J=150°C			100	μA
Dynamic Forward Resistance	r_f	I_F=100mA		5		Ω
Junction Capacitance	C_J	V_R = 0V, f = 1MHz			5	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=30mA, I_{rr}=0.1×I_R,R_L=100Ω			50	ns

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

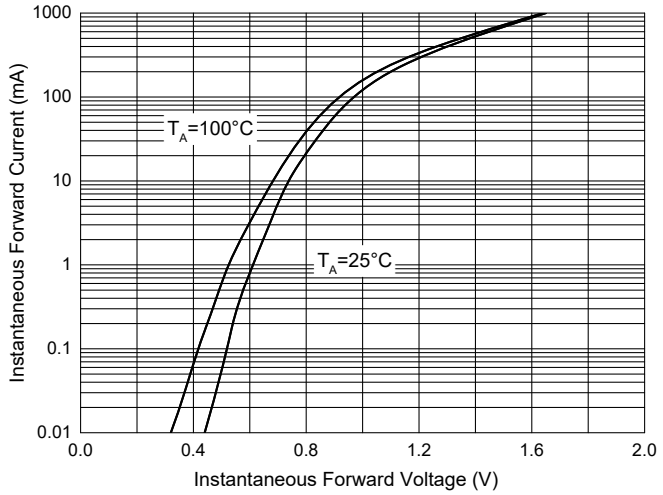


Fig. 2 - Typical Reverse Leakage Characteristics

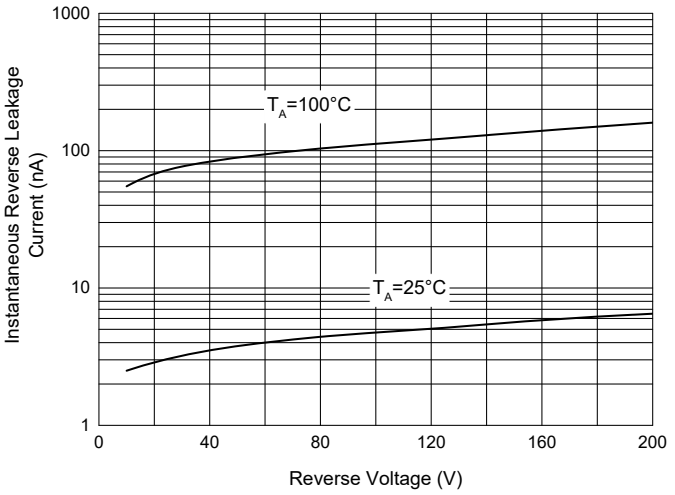
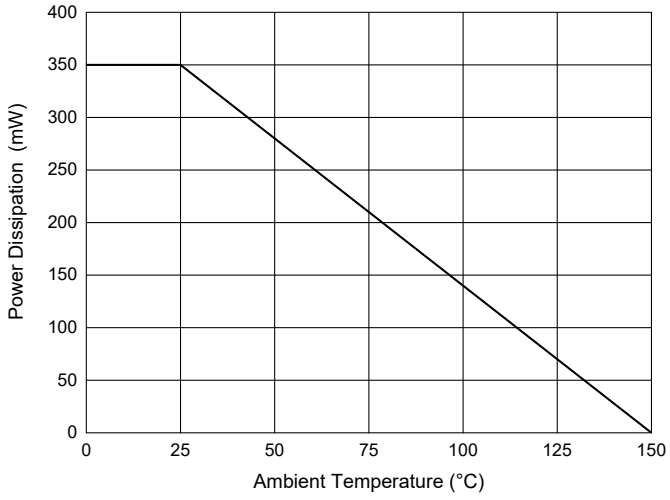


Fig. 3 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel
Part Number-13P	Tape&Reel: 10Kpcs/Reel

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