

BAS316

Schottky Barrier Rectifiers



Voltage: 100 Volts

Current: 250.00 mAmperes

Package: SOD-323

Features

- NH'S Plane Schottky Barrier Chip Technology
- Low Forward Voltage Drop For High Efficiency
- Low Power Loss For High Reliability
- High Frequency Switching Speed

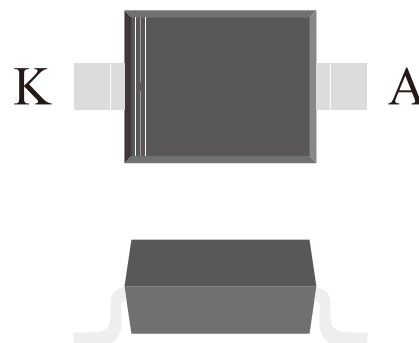
Mechanical Data

- **Case:** Molded With UL-94 ClassV-0 Recognized, RoHS-Compliant
- **Polarity:** Look At The Diagram And Polarity On The Right
- **Terminals:** Tin Plated Leads,Solderable Per J-STD-002 And JESD22-B102

Typical Applications

- Switch Mode Power Supplies (SMPS)
- Fast Chargers
- LED Driver And Monitor Lighting
- Automotive Electronics And Charging Posts

Diagram:



Polarity:



Single Phase,Half Wave,60Hz,Resistive Or Inductive Load.For Capacitive Load,Derate Current By 20%

Maximum Ratings (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	100	V
Maximum RMS Voltag		V_{RMS}	70	V
Maximum DC Blocking Voltage		V_{DC}	100	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	250	mA
Peak Forward Surge Current	1ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	1	A
Current Squared Time	$t < 1ms$	I^2t	0.00415	A ² sec
Power Dissipation	Ta=25°C	P_D	200	mW

Electrical Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings			Unit
			Min.	Typ.	Max.	
Maximum Instaneous Forward Voltage	Ta=25°C Ta=110°C $I_F = 150 \text{ mA}$	V_F	--	1000 950	1250 1100	mV
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25°C , $V_R = V_{RRM}$ Ta=110°C , $V_R = V_{RRM} * 80\%$	I_{RRM}	--	1 1	5 5	uA mA
Typical Junction Capacitance	0 V,1MHz	C_J	--	1	--	pF
Maximum Reverse Recovery Time	$I_F = I_R = 10mA$, $I_{rr} = 0.1 \times I_R$	T_{rr}	4			nS

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Operating Junction Temperature Range		T_J	-55 to 150	°C
Storage Temperature Range		T_{STD}	-55 to 150	
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25°C	$R_{\theta JA}$	100.0	°C/W
Thermal Resistance Junction-Case With Steady-State	Device Mounted On 1 in2 FR-4 Board With 2oz. Copper	$R_{\theta JC}$	2.5	

Notes: 1.Pulse Test: 300 Us Pulse Width,1% Duty Cycle

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Typical Characteristics Curves

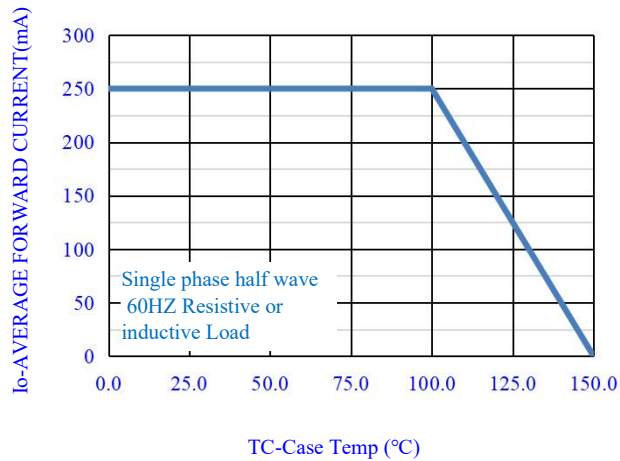


Fig.1-FORWARD CURRENT DERATING CURVE

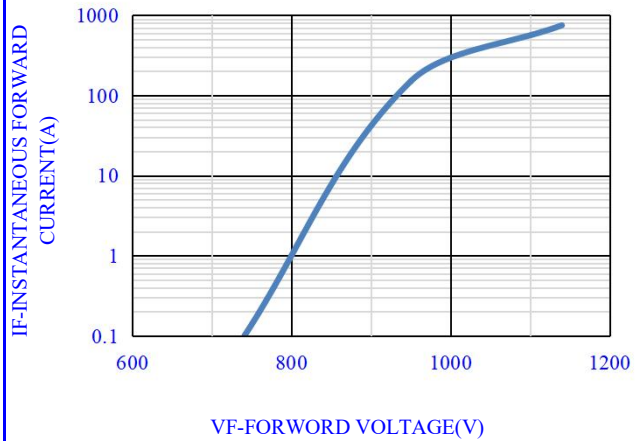


Fig.2- TYPICAL INSTANTANEOUS FORWARD

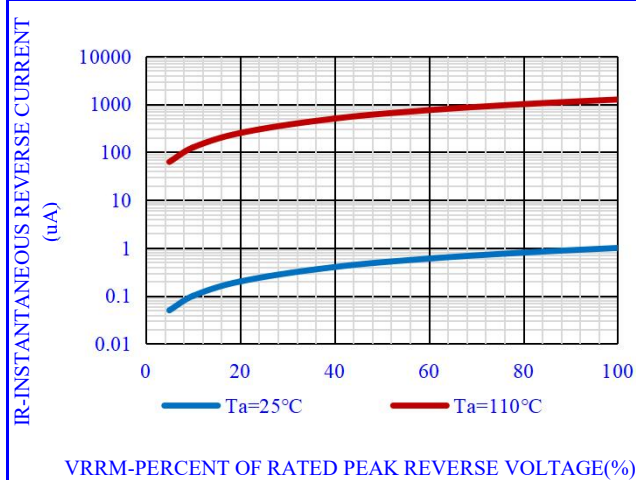


Fig.3- TYPICAL REVERSE CHARACTERISTICS

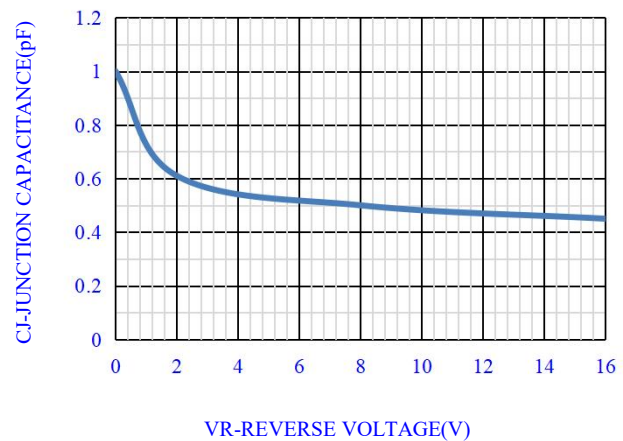


Fig.4- TYPICAL JUNCTION CAPACITANCE

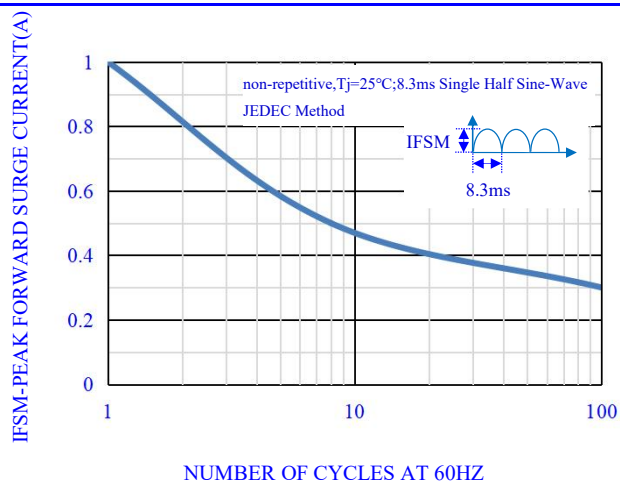


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

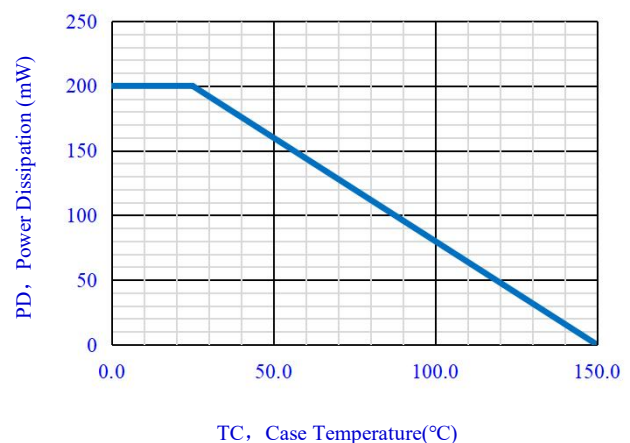


Fig.6-Maximum Power Dissipation vs. Case Temperature

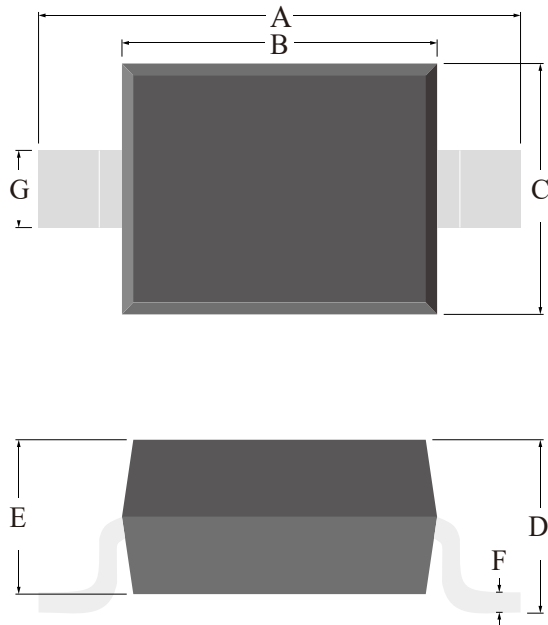
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OUTLINE DRAWINGS

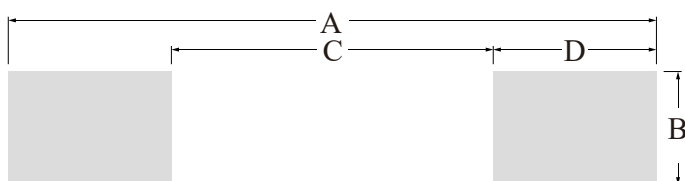
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OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.40	-	2.70	0.0945	-	0.1063
B	1.55	-	1.85	0.0610	-	0.0728
C	1.15	-	1.45	0.0453	-	0.0571
D	0.75	-	1.10	-	-	0.0433
E	0.70	-	1.00	0.0276	-	0.0394
F	-	0.10	-	-	0.0039	-
G	0.25	-	0.55	0.0098	-	0.0217

RECOMMENDED LAYOUT DRAWINGS

SOD-323



OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	2.90	-	-	0.1142	-
B	--	0.50	--	--	0.0197	--
C	--	1.44	--	--	0.0567	--
D	--	0.73	--	--	0.0287	--

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MARKING

MARKING INSTRUCTION



BAS316=Make,A6

PACKING INFORMATION

Package Type	Package Code	Product Weight Approx(g/Pcs)	Package Method	Quantity (Pcs/Min. Pack.)	Quantity (Pcs/Inner Box)	Quantity (Pcs/Carton)
SOD-323	P1	0.0041	7" Reel	3000	45000	180000

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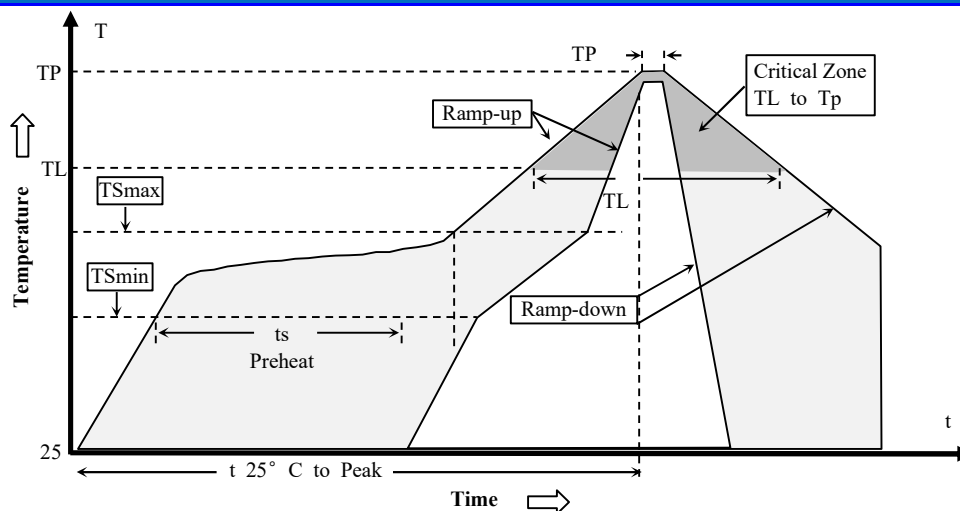
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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