

Feature

NH'S Standard Rectifier Chip Technology
Low Forward Voltage Drop For High Efficiency Low
Leakage Current For High Reliability
High Surge Capability For High Reliability

Mechanical Data

Case: Molded With UL-94 ClassV-0 Recognized,
RoHS-Compliant

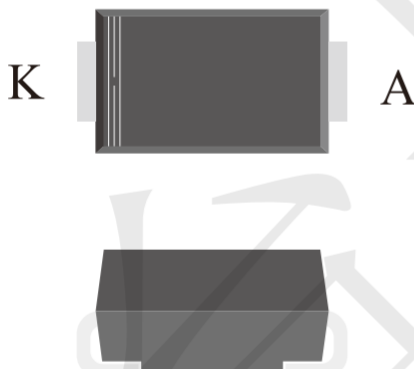
Polarity: Look At The Diagram And Polarity On The Right

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	S1 AA	S1 BA	S1 DA	S1 GA	S1 JA	S1 KA	S1 MA	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	1							A
Peak Forward Surge Current	8.3ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	30							A
Current Squared Time	$t < 8.3ms$	I^2t	3.7							A ² sec

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

Parameter	Test Conditions	Symbol	S1 AA	S1 BA	S1 DA	S1 GA	S1 JA	S1 KA	S1 MA	Unit
Maximum Instantaneous Forward Voltage	$I_F = 1.0 \text{ A}$	V_F	1.00							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25°C , $V_R = V_{RRM}$ Ta=125°C , $V_R = V_{RRM} * 80\%$	I_{RRM}	5 200							uA uA
Typical Junction Capacitance	4 V, 1MHz	C_J	9							pF

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

Parameter	Test Conditions	Symbol	S1 AA	S1 BA	S1 DA	S1 GA	S1 JA	S1 KA	S1 MA	Unit	
Operating Junction Temperature Range		T _J	-55~125			-55~150		-55~175		℃	
Storage Temperature Range		T _{STD}	-55~125			-55~150		-55~175			
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25℃	R _{θJA}	70.0								℃/W
Thermal Resistance Junction-Case With Steady-State	Device Mounted On 1 in2 FR-4 Board With 2oz. Copper	R _{θJC}	20.0								

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

Typical Characteristics Curves

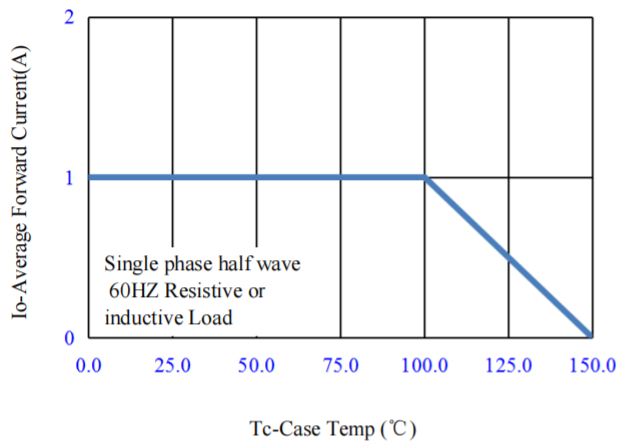


Fig.1-Forward Current Derating Curve

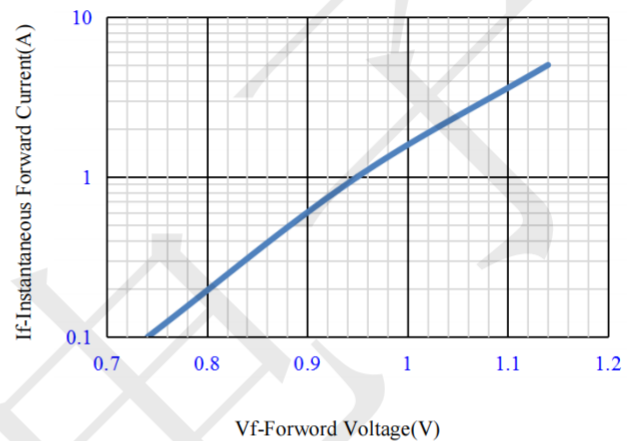


Fig.2-Typical Instantaneous Forward

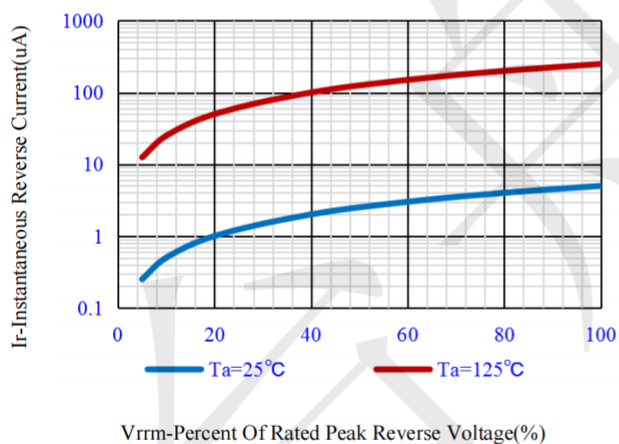


Fig.3-Typical Reverse Characteristics

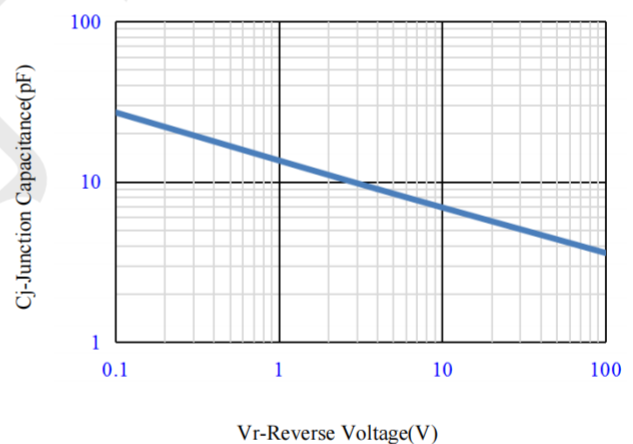


Fig.4-Typical Junction Capacitance

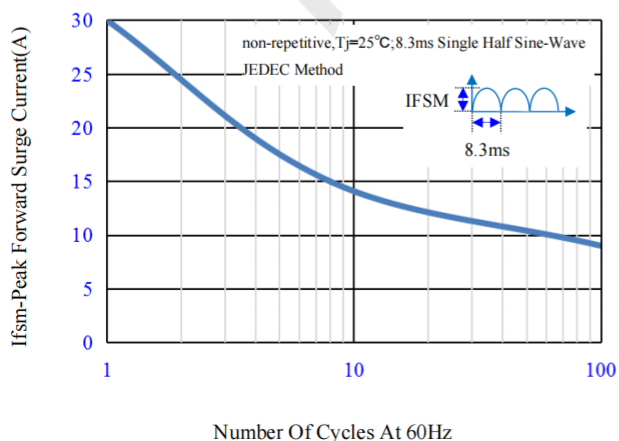
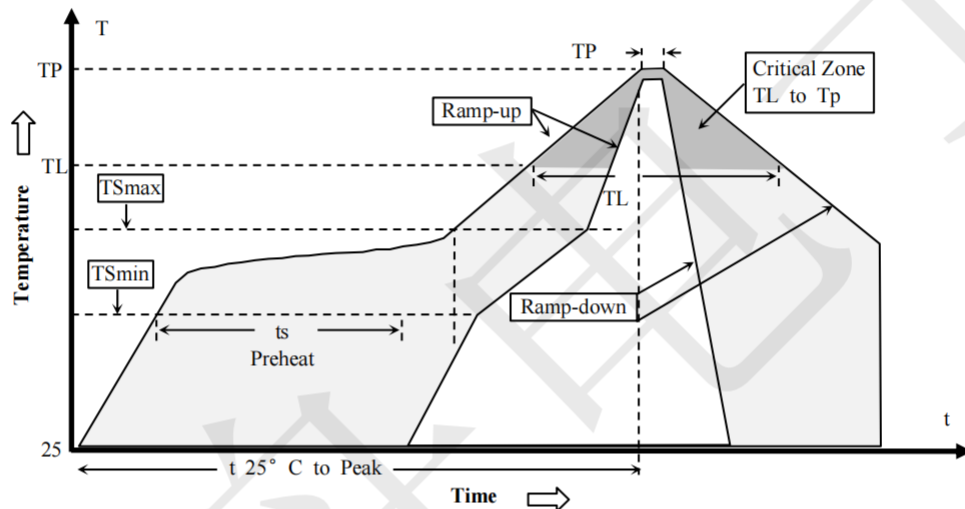


Fig.5-Max. Non-Repertitive Surge Current

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

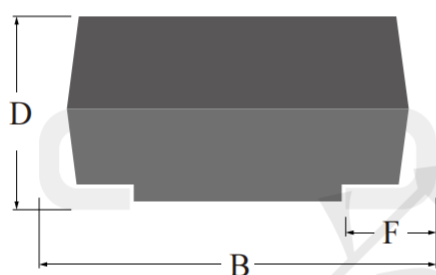
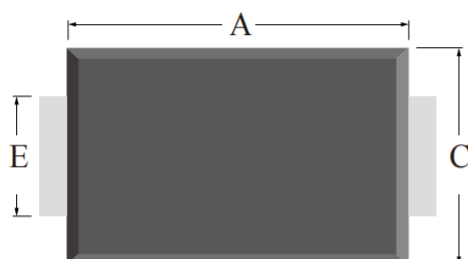


Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (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.

OUTLINE DRAWINGS

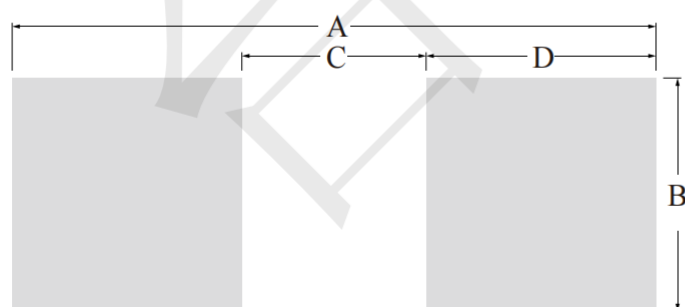
SMA



OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.00	-	4.60	0.1575	-	1.8110
B	4.70	-	5.28	1.8504	-	2.0787
C	2.40	-	2.85	0.9449	-	1.1220
D	1.90	-	2.58	0.7480	-	1.0157
E	1.30	-	1.60	0.5118	-	0.6299
F	0.76	-	1.52	0.2992	-	0.5984

RECOMMENDED LAYOUT DRAWINGS

SMA



OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	5.80	-	-	2.2835	-
B	-	2.06	-	-	0.8110	-
C	-	1.66	-	-	0.6535	-
D	-	2.07	-	-	0.8150	-