M7

General Purpose Rectifiers

Pb-Free RoHS COMPLIANT

Voltage:	1000 Volts	Current:	1 A	Package:	SMA

Features

- 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

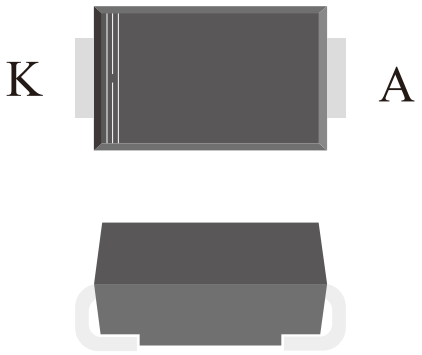
Mechanical Data

- **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

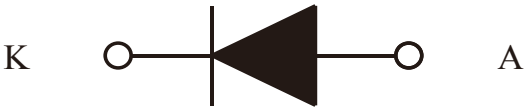
Typical Applications

- 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℃ Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	1000	V
Maximum RMS Voltag		V_{RMS}	700	V
Maximum DC Blocking Voltage		V_{DC}	1000	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	1.0	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^2sec

Electrical Characteristcs (Ta=25℃ Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings			Unit
			Min.	Typ.	Max.	
Instaneous Forward Voltage Per Diode	IF=1A	V_F	--	0.96	1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25℃ ,V_R=VRRM	I_{RRM}	--	1	5	uA
	Ta=125℃ ,V_R=VRRM*80%		--	25	200	uA
Typical Junction Capacitance	4 V,1MHz	C_J	--	6	--	pF
Maximum Reverse Recovery Time	IF=0.5A, IR=1.0A, IRR=0.25A	Trr	--	1250	1600	nS

Thermal Characteristcs (Ta=25℃ Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Operating Junction Temperature Range		T_J	-55 to 150	℃
Storage Temperature Range		T_{STD}	-55 to 150	
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25℃	$R_{\theta JA}$	70	℃/W
Thermal Resistance Junction-Case With Steady-State	Device Mounted On 1 in2 FR-4 Board With 2oz. Copper	$R_{\theta JC}$	20	

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

M7

General Purpose Rectifiers

Pb-Free RoHS COMPLIANT

Typical Characteristics Curves

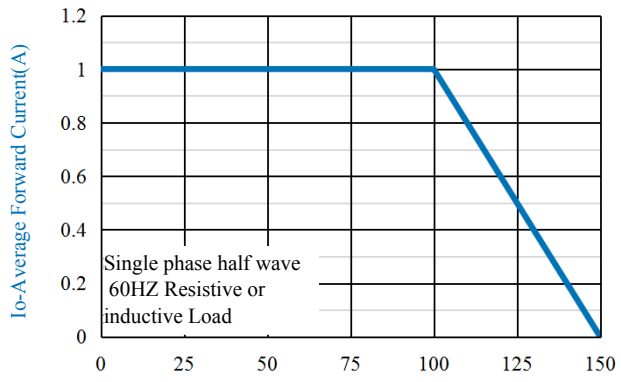


Fig.1-Forward Current Derating Curve

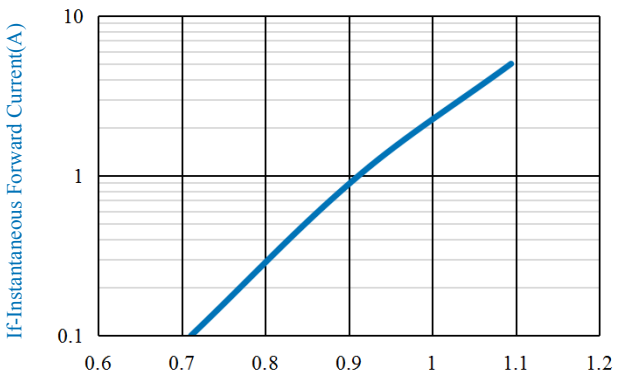


Fig.2-Typical Instantaneous Forward

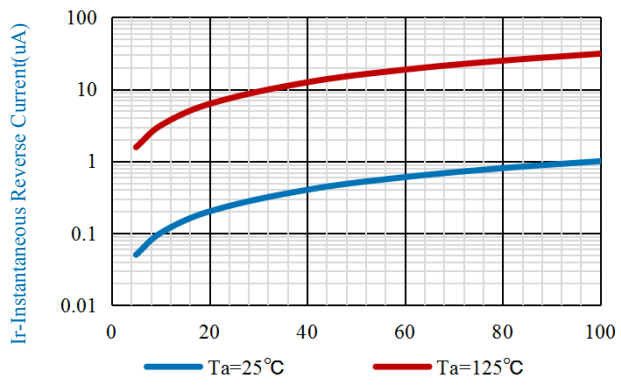


Fig.3-Typical Reverse Characteristics

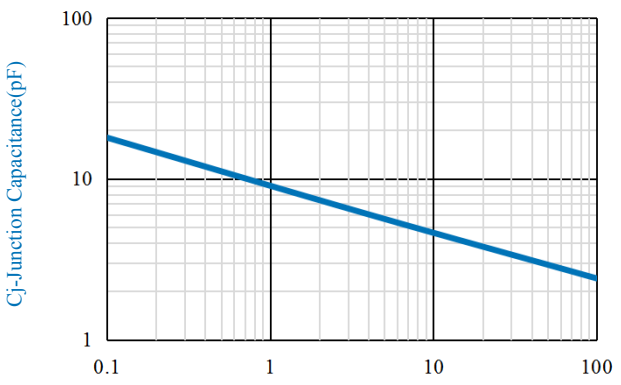


Fig.4-Typical Junction Capacitance

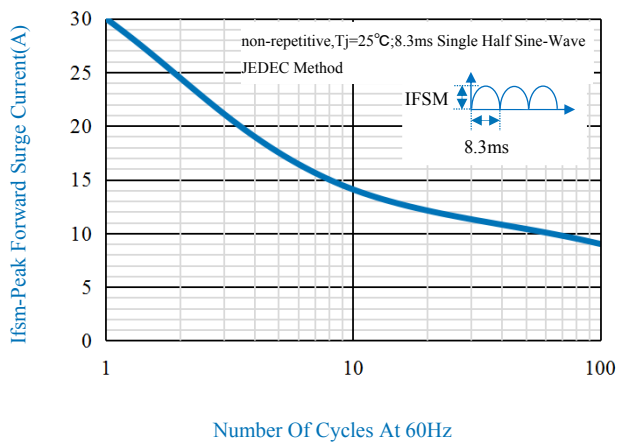


Fig.5-Max. Non-Repetitive Surge Current

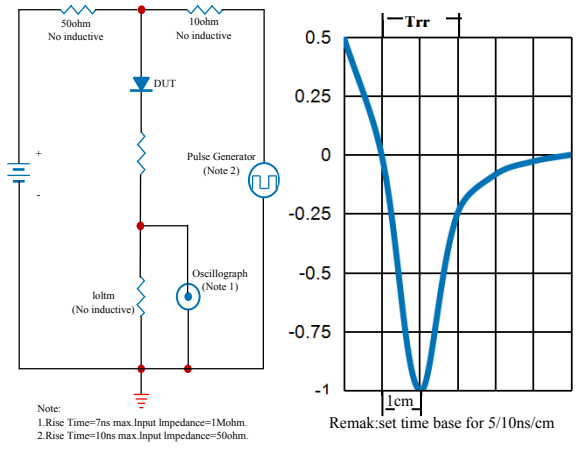


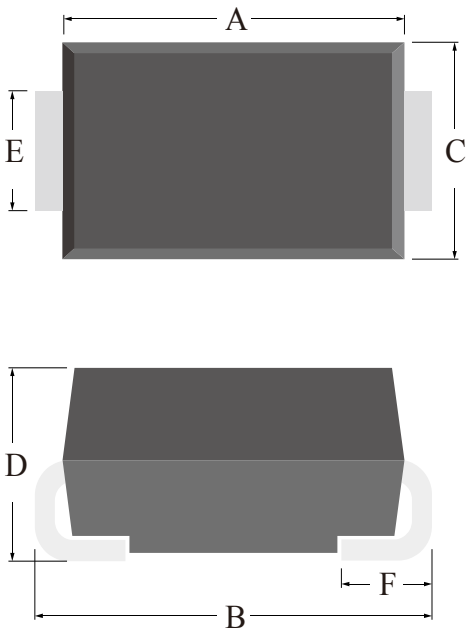
Fig.6-Reverse Recovery Time Characteristic And Test Circuit

M7

General Purpose Rectifiers

Pb Pb-Free RoHS COMPLIANT

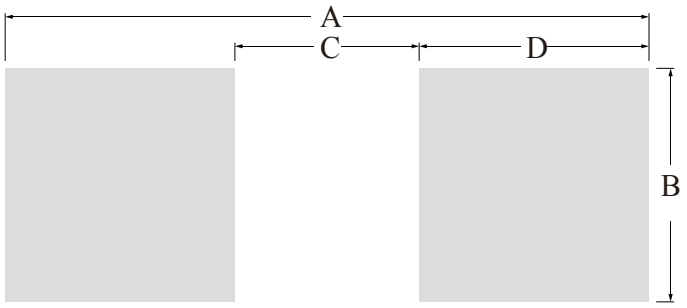
OUTLINE DRAWINGS



M7

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

RECOMMEDNED LAYOUT DRAWINGS



M7

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	-

M7

General Purpose Rectifiers

Pb-Free RoHS COMPLIANT

MARKING



MARKING INSTRUCTION

NH=Niuhang Trademark

FF=Product Line Code,According To Actual Changes

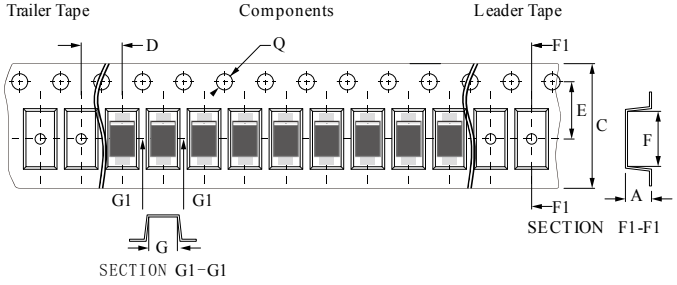
YWW=Date Code,According To Actual Changes

M7=Model

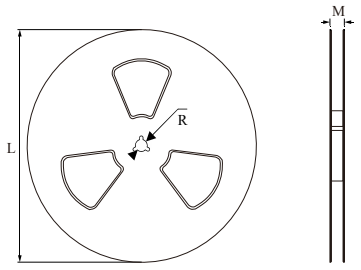
0=Polarity Mark

PACKAGING

TAPE



REEL



SMA

OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
TAPE						
A	2.45	-	2.65	0.0965	-	0.1043
C	11.70	-	12.30	0.4606	-	0.4843
D	3.80	-	4.20	0.1496	-	0.1654
E	5.30	-	5.70	0.2087	-	0.2244
F	5.13	-	5.53	0.2020	-	0.2177
G	2.69	-	2.89	0.1059	-	0.1138
Q Φ	1.40	-	1.60	0.0551	-	0.0630
REEL						
L	328.00	-	332.00	12.913	-	13.071
R	12.00	-	14.00	0.4724	-	0.5512
M	15.00	-	17.00	0.5906	-	0.6693

PACKING INFORMATION

Package Type	Package Code	Productor Weight Approx(g/Pcs)	Package Method	Quantity (Pcs/Min. Pack.)	Quantity (Pcs/Inner Box)	Quantity (Pcs/Carton)
SMA	P1	0.063	13" Reel	5000	10000	80000
SMA	P2	0.063	13" Reel	5000	10000	100000

M7

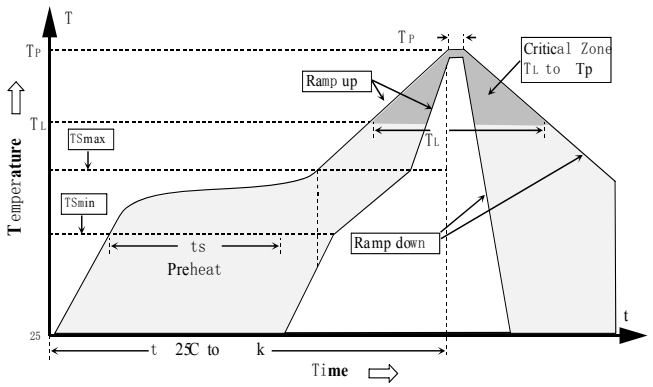
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Pb Pb-Free RoHS COMPLIANT

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 (Tsmax to Tp)	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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M7

General Purpose Rectifiers

Pb Pb-Free RoHS COMPLIANT

Specification Revision History

Rev.	Date	Changed Items	Pre-Changed Content	Changed Content
A/1	2014-10-20	First Issue		

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