

PL34A

LOW VF SCHOTTKY RECTIFIERS



VOLTAGE: 40 Volts	CURRENT: 3.0 Amperes	SMA(DO-214AC)	Marking and Polarity
FEATURES			
<ul style="list-style-type: none"> Low Forward Voltage Drop for high efficiency Low leakage current for high reliability High forward surge capability for high reliability 			
MECHANICAL DATA			
<ul style="list-style-type: none"> Terminals: Plated Leads Solderable per MIL-STD-202, Method 208 Mounting Position: Any Lead Free: Lead Free Finish, RoHS Compliant Weight: App. 0.063 grams (0.0022 ounce) 		Remark: ①. NH=niuhang trademark ②. FF=Product line,According to actual changes; YWW=Periodic code,According to actual changes; ③. PL34A=Modle ④. White band denotes cathode	
TYPICAL APPLICATIONS			
<ul style="list-style-type: none"> For use in high frequency inverters ,AC/DC converters, DC/DC converters,LED driver etc. applications 			

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	PL34A	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC blocking voltage	V_{DC}	40	V
Maximum average forward rectified current(see fig.1)	$I_{F(AV)}$	3.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)(see fig.5)	I_{FSM}	80	A

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Test Conditions	Symbol	PL34A			Unit		
			Min.	Typ.	Max.			
Maximum instantaneous forward voltage (see fig.2) (Note 1)	$T_A=25^\circ\text{C}$	V_F	IF= 1.0 A	--	0.33	0.36	V	
				IF= 2.0 A	--	0.37		0.40
				IF= 3.0 A	--	0.41		0.45
	$T_A=125^\circ\text{C}$	IF= 3.0 A	--	0.35	0.40			
Maximum instantaneous reversecurrent at rated DC blockingvoltage (see fig.3)(Note 1)	$T_A=25^\circ\text{C}$	I_R	VR= 40 V	--	20	100	μA	
	$T_A=100^\circ\text{C}$			--	--	20	mA	
Typical junction capacitance(see fig.4)	4V,1MHz	C_J	--	500	--	pF		

Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	PL34A	Unit
Operating junction	T_J	-55 to 150	°C
Storage temperature range	T_{STG}	-55 to 150	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	100	°C/W
	$R_{\theta JL}$	32	

Note: 1.Pulse width < 300 uS, Duty cycle < 2%
 2.Mounted on P.C.B. with 0.2" x 0.2" (5.08 mm x 5.08 mm) copper pad areas

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RATING AND CHARACTERISTIC CURVES

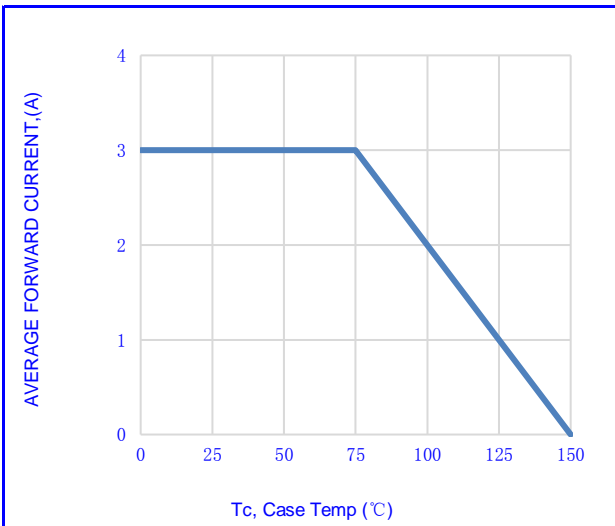


Fig.1- FORWARD CURRENT DERATING CURVE

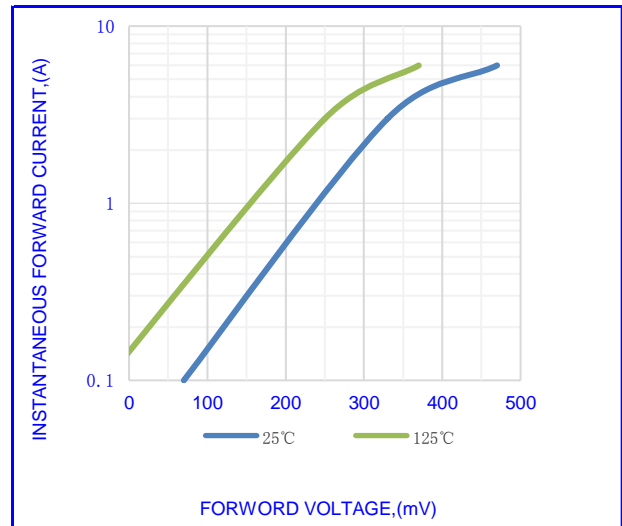


Fig.2-TYPICAL INSTANTANEOUS FORWARD

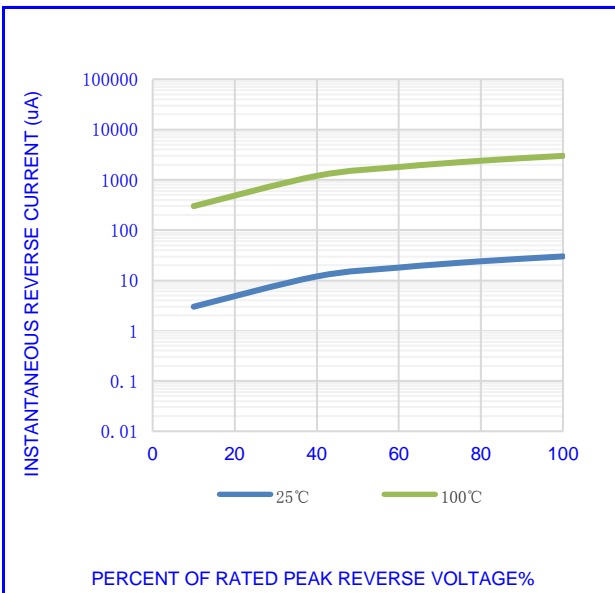


Fig.3-TYPICAL REVERSE CHARACTERISTICS

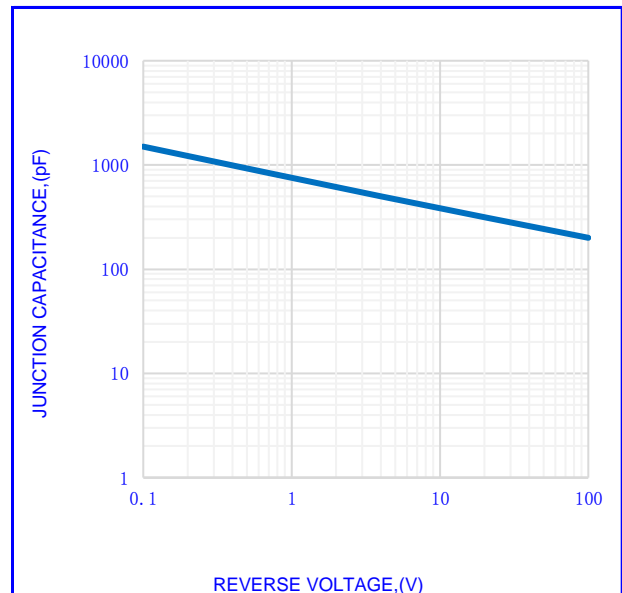


Fig.4- TYPICAL JUNCTION CAPACITANCE

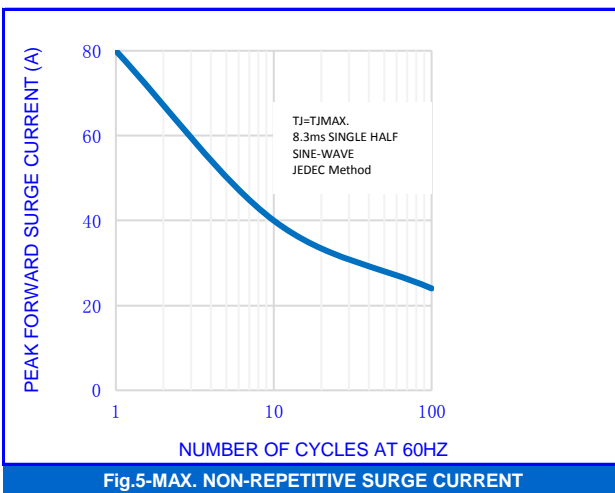


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

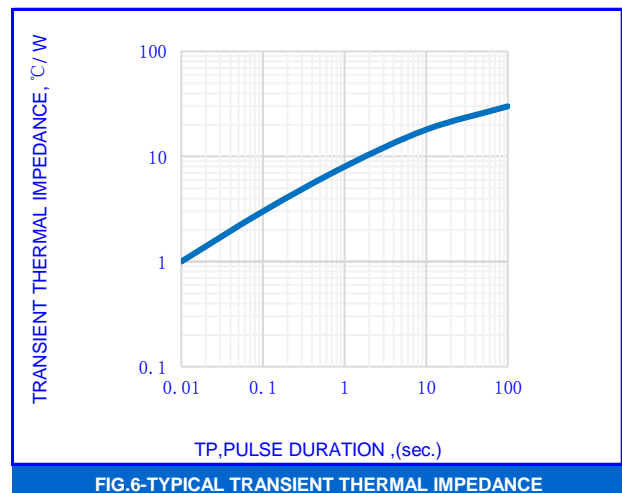


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

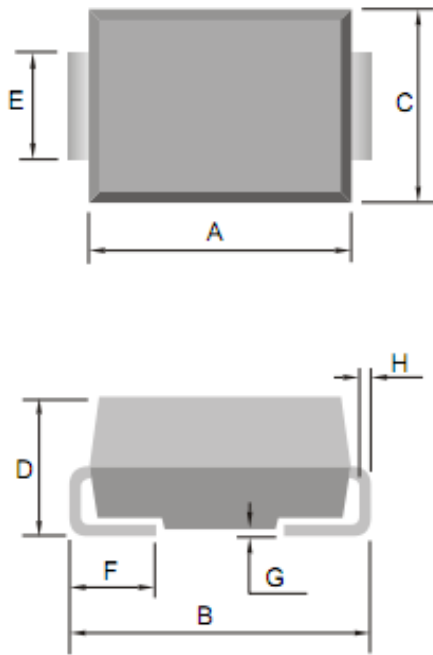
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OUTLINE DRAWINGS

SMA(DO-214AC)

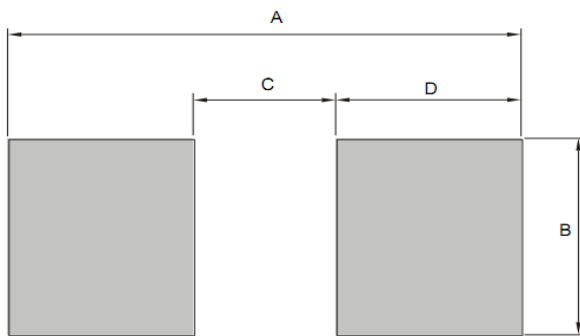


OUTLINE DIMENSIONS

Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.000	-	4.600	0.181	-	0.157
B	4.700	-	5.280	0.185	-	0.208
C	2.400	-	2.800	0.094	-	0.110
D	1.900	-	2.400	0.075	-	0.094
E	1.300	-	1.500	0.051	-	0.059
F	0.760	-	1.520	0.030	-	0.060
G	0.100	-	0.250	0.004	-	0.010
H	0.150	-	0.305	0.006	-	0.012

RECOMMENDED LAYOUT DRAWINGS

SMA(DO-214AC)



RECOMMENDED MOUNTING PAD DIMENSIONS

Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	5.800	-	-	0.228	-
B	-	2.060	-	-	0.081	-
C	-	1.660	-	-	0.065	-
D	-	2.070	-	-	0.082	-

PACKING INFORMATION

SMA(DO-214AC)

Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size LxWxH(mm)	Quantity (pcs/Inner Box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)
Tape Reel	Φ330	5000	340x340x45	10000	360x360x470	100000

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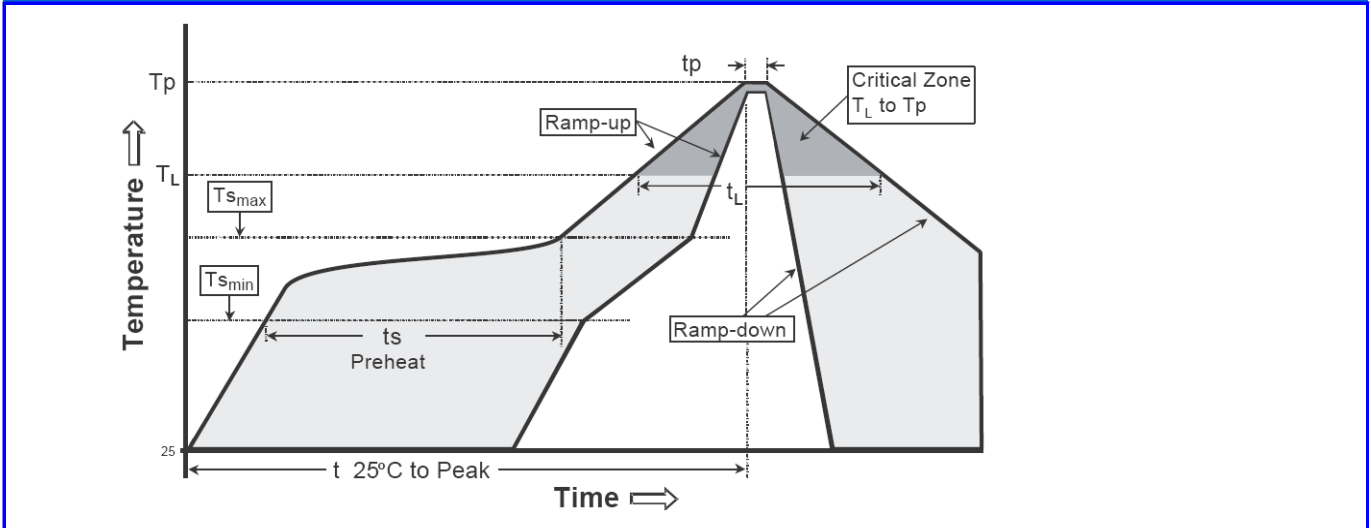
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Recommended wave soldering condition

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 (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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