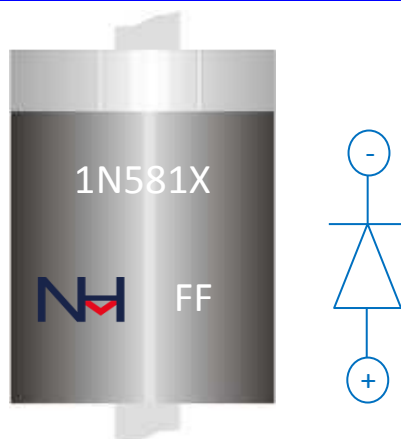


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VOLTAGE:		20-40	Volts	CURRENT:		1	Amperes	DO-41		Marking and Polarity	
FEATURES											
■ Plastic package has Underwriters Laboratory Flammability Classification 94V-0 ■ Metal silicon junction ,majority carrier conductionconduction ■ Guard ring for overvoltage protection ■ Low power loss ,high efficiency ■ High current capability ,ultra low forward voltage drop											
MECHANICAL DATA											
■ Case: JEDEC DO-41 molded plastic body ■ Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026 ■ Polarity: color band denotes cathode end ■ Mounting Position: Any ■ Weight: 0.012 ounce, 0.33 grams											
TYPICAL APPLICATIONS											
■ For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications											



Remark:

- ①. NH=niuhang trademark;
- ②. 1N581X=Module;
- ③. FF=Production line,According to actual changes;
- ④. White band denotes cathode

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

Parameter	Symbol	1N5817	1N5818	1N5819	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC blocking voltage	V_{DC}	20	30	40	V
Maximum average forward rectified current(see fig.1)	$I_{F(AV)}$	1			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}	25			A

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

Parameter	Test Conditions		Symbol	1N5817	1N5818	1N5819	Unit
Maximum instantaneous forward voltage(see fig.2)(Note 1)	$T_A=25^{\circ}C$	$I_F=1A$	V_F	0.47	0.55	0.6	V
Maximum instantaneous reverse current at rated DC blocking voltage (see fig.3)(Note 1)	$T_A=25^{\circ}C$	$V_R=V_{RRM}$	I_R	200			uA
	$T_A=125^{\circ}C$	$V_R=80\%*V_{RRM}$		10			mA
Typical junction capacitance(see fig.4)	4V,1MHz		C_J	110			pF

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

Parameter	Symbol	1N5817	1N5818	1N5819	Unit
Operating junction	T _J	-55	to	125	°C
Storage temperature range	T _{STG}	-55	to	125	
Typical thermal resistance (Note 2)	R _{θJA}	80			°C/W
	R _{θJL}	15			

Note:

- Pulse width < 300 uS, Duty cycle < 2%
- Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length,Polymide PCB, 2 oz Copper.

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RATING AND CHARACTERISTIC CURVES

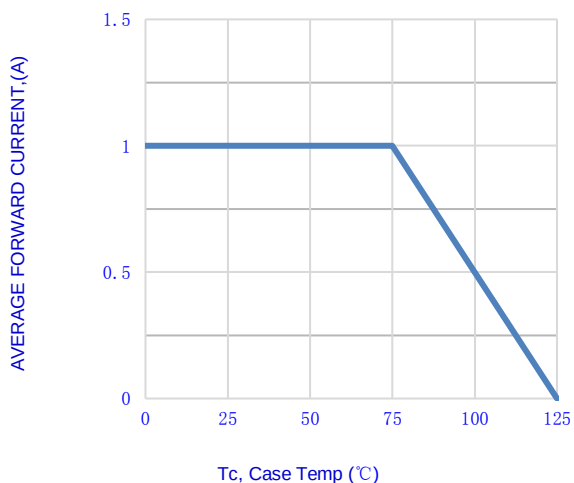


Fig.1- FORWARD CURRENT DERATING CURVE

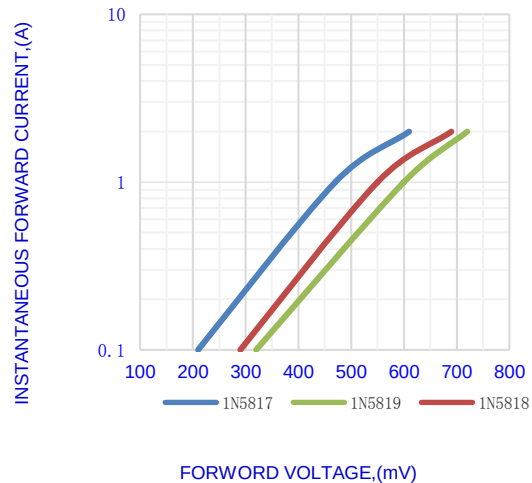


Fig.2-TYPICAL INSTANTANEOUS FORWARD

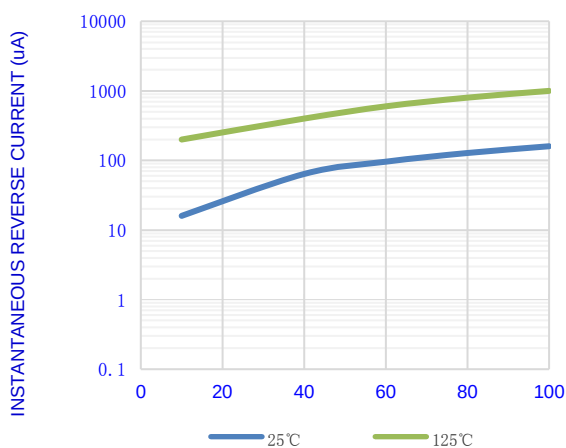


Fig.3-TYPICAL REVERSE CHARACTERISTICS

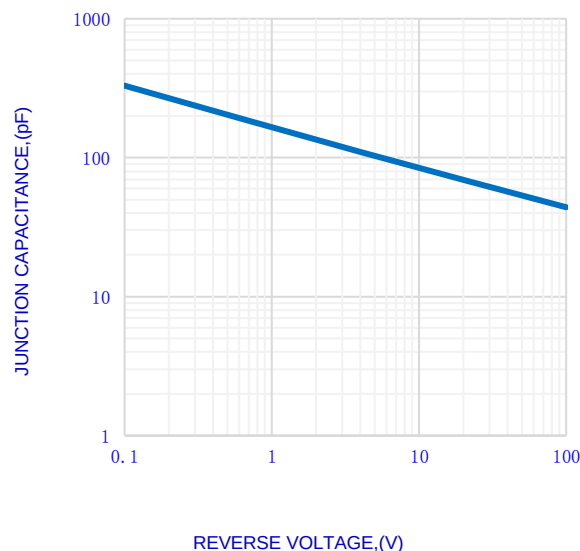


Fig.4- TYPICAL JUNCTION CAPACITANCE

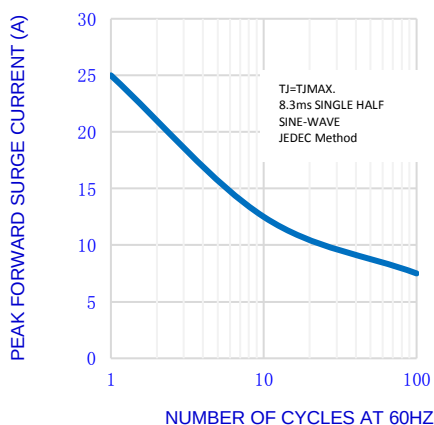


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

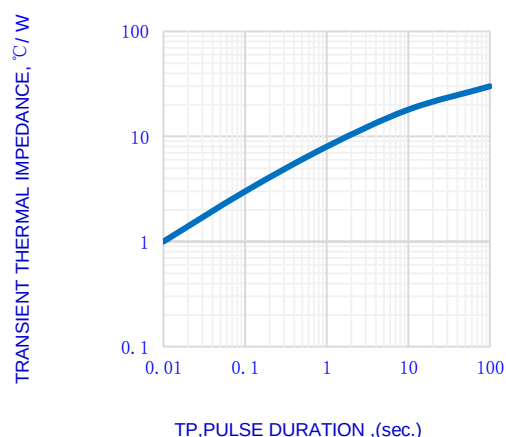


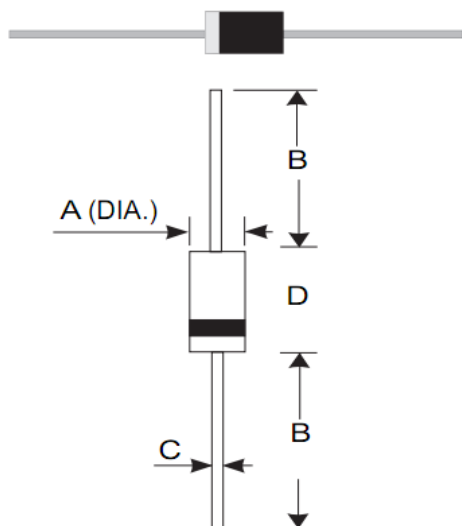
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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OUTLINE DRAWINGS

DO-41



OUTLINE DIMENSIONS

Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.0	-	2.8	0.079	-	0.110
B	25.1	-	-	0.988	-	-
C	0.6	-	0.9	0.024	-	0.035
D	4.2	-	5.2	0.165	-	0.205

Packing Information

Package	Pack	Box Size L×W×H(mm)	Quantity (pcs/box)	Carton Size L×W×H(mm)	Quantity (pcs/carton)
DO-41	B/G	250*75*140	5000	420*280*310	50000

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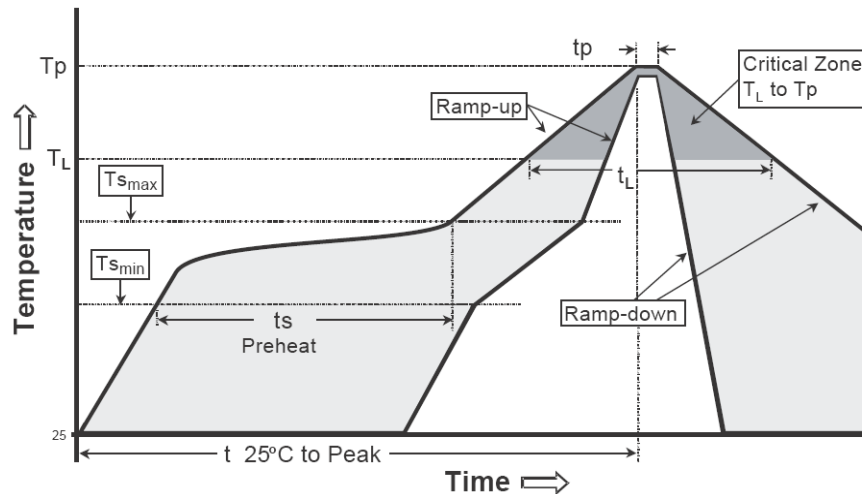
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Recommended wave soldering condition

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 (Tsmmax 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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