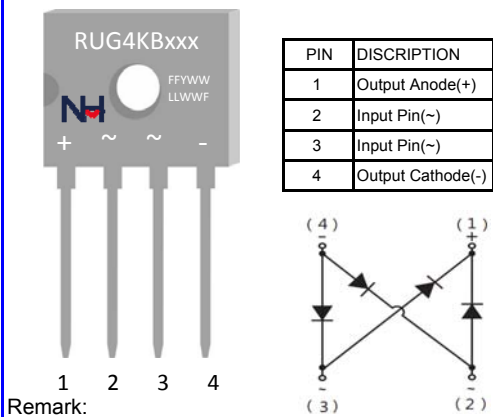


RUG4KB060 THRU RUG4KB100
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VOLTAGE	600~1000 Volts	CURRENT	4.0 Amperes	D3K	Marking & Schematic diagram										
FEATURES		 <table border="1" data-bbox="1197 380 1412 537"> <thead> <tr> <th>PIN</th> <th>DISCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output Anode(+)</td> </tr> <tr> <td>2</td> <td>Input Pin(-)</td> </tr> <tr> <td>3</td> <td>Input Pin(-)</td> </tr> <tr> <td>4</td> <td>Output Cathode(-)</td> </tr> </tbody> </table>				PIN	DISCRIPTION	1	Output Anode(+)	2	Input Pin(-)	3	Input Pin(-)	4	Output Cathode(-)
PIN	DISCRIPTION														
1	Output Anode(+)														
2	Input Pin(-)														
3	Input Pin(-)														
4	Output Cathode(-)														
MECHANICAL DATA		<p>Remark:</p> <ol style="list-style-type: none"> NH=niuhang trademark FF=Product line code,According to actual changes YWW=Data code,According to actual changes EDDKF=Inernal control code,According to actual changes RUG4KBxxx=Modle,xxx=060,080,100 "+ ~ ~ -"=Polarity mark 													
TYPICAL APPLICATIONS		<ul style="list-style-type: none"> For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications 													

Single phase,half wave,60Hz,resistive or inductive load.For capacitive load,derate current by 20%

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

Parameter	Symbol	RUG4KB060	RUG4KB080	RUG4KB100	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Maximum RMS Voltag	V_{RMS}	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	600	800	1000	V
Maximum Average Forward Rectified Current @ TC=100°C (see fig.1)	$I_{F(AV)}$	4.0 1.3			A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	135			A
Current Squared Time Per Diode(t<8.3ms)	$I^2 t$	75.63			A ² sec

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

Parameter	Symbol	RUG4KB060	RUG4KB080	RUG4KB100	Unit
Maximum Forward Voltage Per Diode (Note 1)	V_F	1.3 1.25			V
Maximum instantaneous reverse current at rated DC blocking voltage (Note 2)	I_{RRM}	10 500			uA
Typical Junction Capacitance Per Diode (Note 3)	C_J	65			pF
Maximum Reverse Recovery Time (Note 4)	T_{RR}	150	250	500	nS

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

Parameter	Symbol	RUG4KB060	RUG4KB080	RUG4KB100	Unit
Operating junction	T_J	-55 to +150			°C
Storage temperature range	T_{STD}	-55 to +150			°C
Typical thermal resistance (Note 5)	$R_{\theta JA}$ $R_{\theta JL}$	31.0 7.6			°C/W

- Notes: 1. Pulse test: 300 μs pulse width,1% duty cycle
 2. Pulse test: pulse width≤40ms
 3. Measured at 1 MHZ and applied reverse voltage of 4.0 VDC.
 4. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
 5. Device mounted on Device mounted on 75mm x 45mm x 2.5mm Aluminum Plate Heatsink.

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RATING AND CHARACTERISTIC CURVES

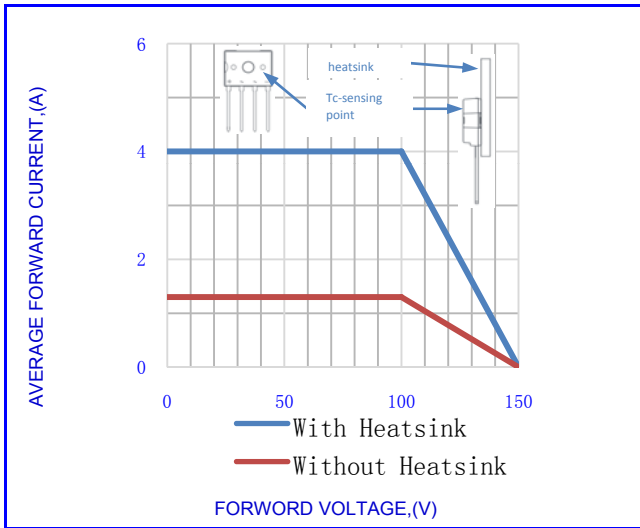


Fig.1-FORWARD CURRENT DERATING CURVE

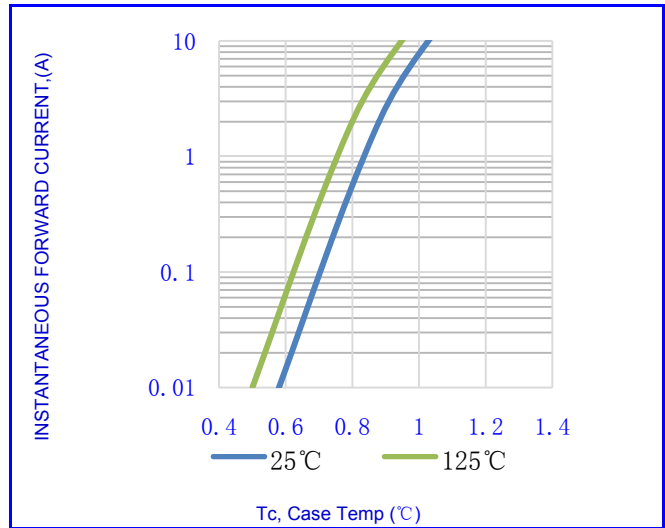


Fig.2- TYPICAL INSTANTANEOUS FORWARD

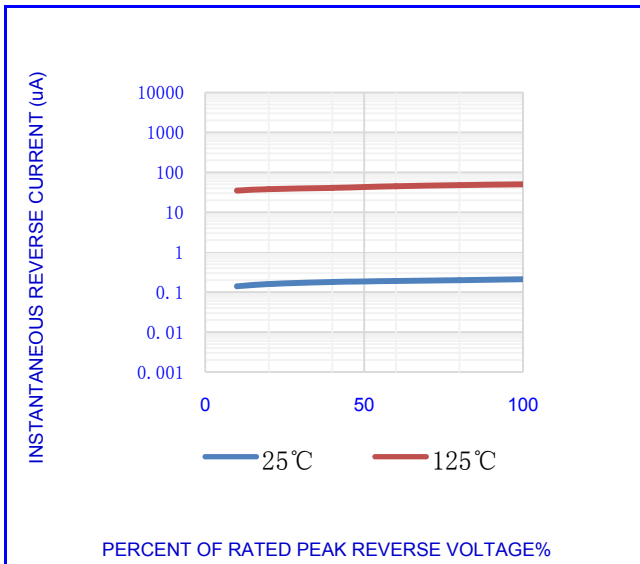


Fig.3- TYPICAL REVERSE CHARACTERISTICS

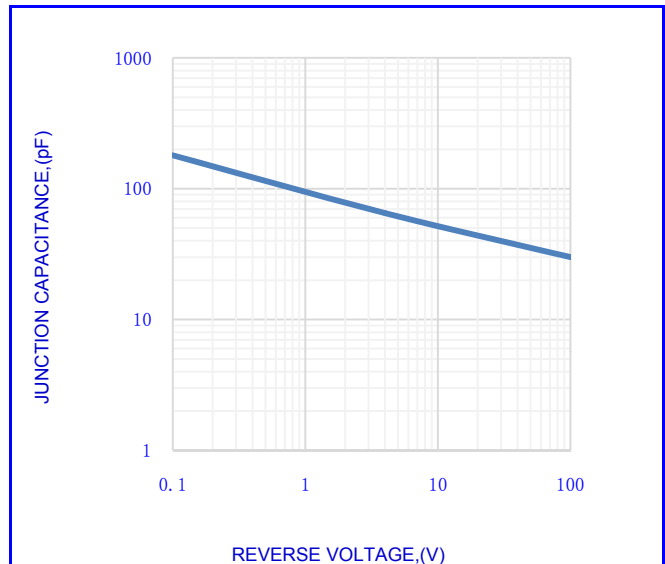


Fig.4- TYPICAL JUNCTION CAPACITANCE

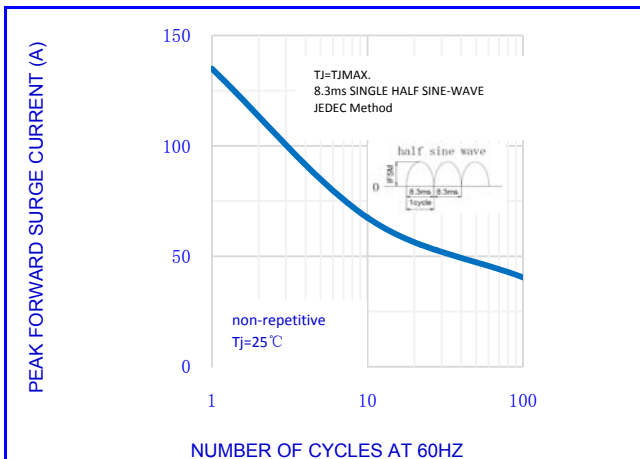


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

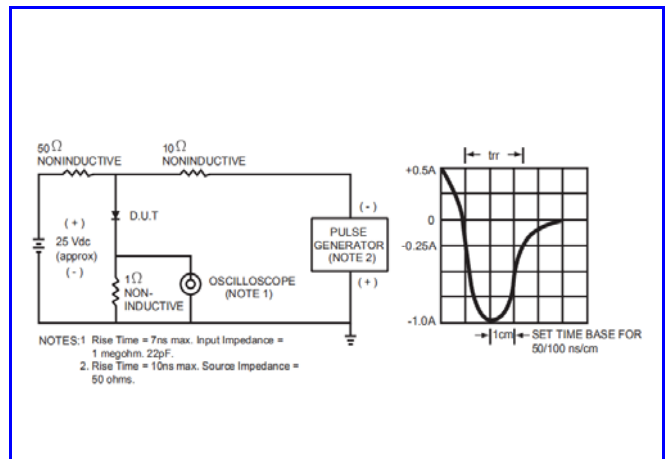
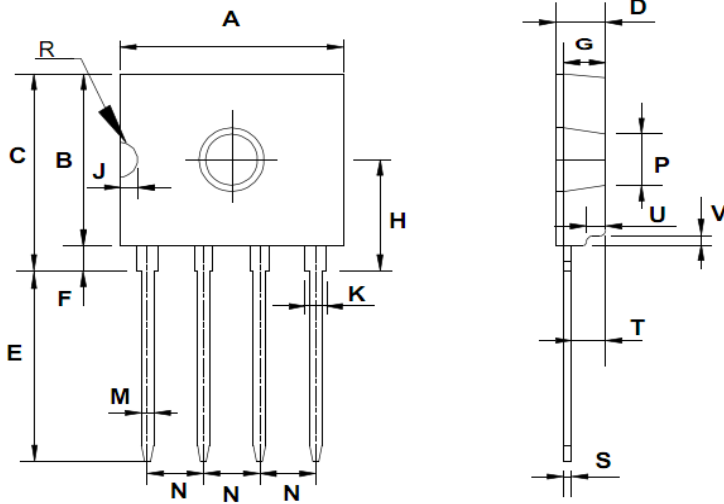


Fig.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

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OUTLINE DRAWINGS



DIM	OUTLINE DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	13.50	-	14.10	0.531	-	0.555
B	10.50	-	11.10	0.413	-	0.437
C	11.70	-	12.30	0.461	-	0.484
D	2.90	-	3.30	0.114	-	0.130
E	11.70	-	12.30	0.461	-	0.484
F	1.20	-	1.40	0.047	-	0.055
G	2.40	-	2.80	0.094	-	0.110
H	6.40	-	7.00	0.252	-	0.276
J	-	1.450	-	-	0.057	-
K	1.10	-	1.50	0.043	-	0.059
M	0.66	-	0.86	0.026	-	0.034
N	3.51	-	4.11	0.138	-	0.162
P	3.10	-	3.40	0.122	-	0.134
R	-	1.450	-	-	0.057	-
S	0.40	-	0.60	0.016	-	0.024
T	1.80	-	2.40	0.071	-	0.094
U	-	0.600	-	-	0.024	-
V	1.00	-	1.40	0.039	-	0.055

D3K

Packing Information

Package	Pack	Quantity (pcs/box)	Box Size L×W×H (mm)	Carton Size L×W×H (mm)	Quantity (box/carton)
D3K	B/P	500	205×155×30	490×240×180	18

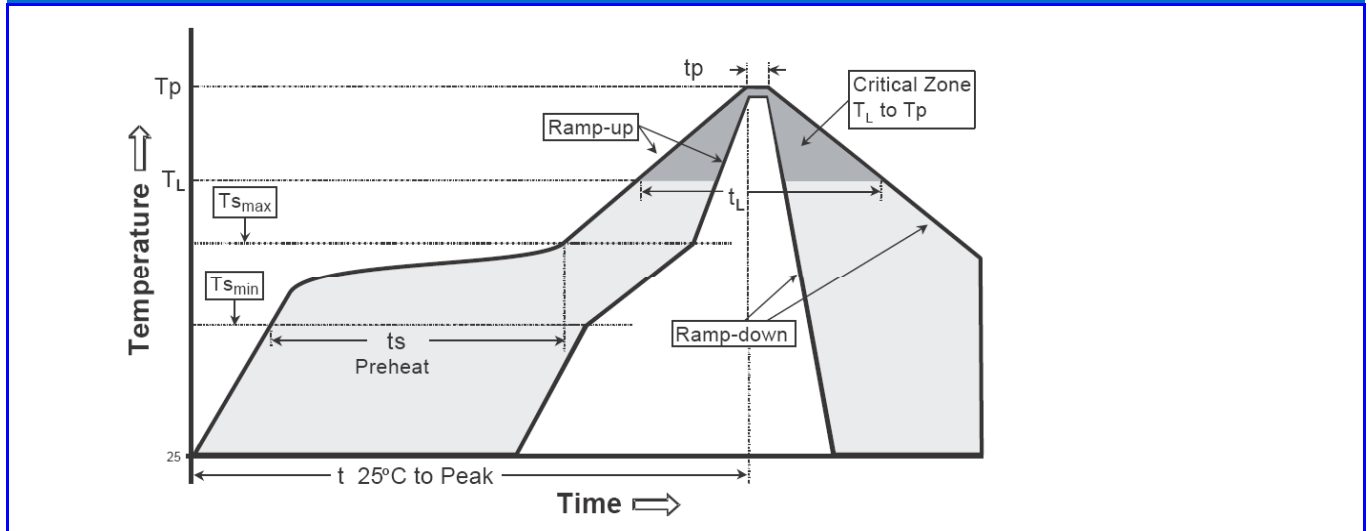
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Recommended wave soldering condition

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(T _{smin}) -Temperature Max(T _{smax}) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (T _L) - Time (t _L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T _p)	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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