

# RU4Y-RU4YX

High Efficiency Rectifiers

**VOLTAGE RANGE: 100 --- 1000 V**

**CURRENT: 2.5 -- 4.0 A**



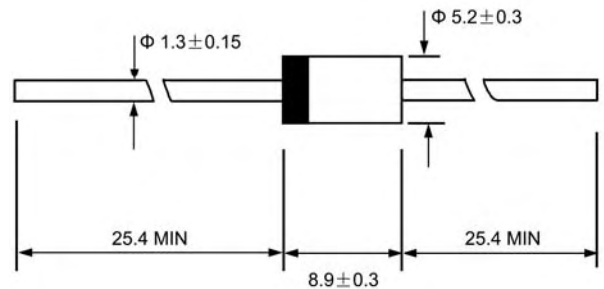
## DO - 27

### Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

### Mechanical Data

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any



Dimensions in millimeters

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

		RU4Y	RU4Z	RU4	RU4A	RU4B	RU4C	RU4YX	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	400	600	800	1000	100	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	560	700	70	V
Maximum DC blocking voltage	$V_{DC}$	100	200	400	600	800	1000	100	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	3.5		3.0			2.5	4.0	A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	70.0		50.0				100.0	A
Maximum instantaneous forward voltage @ $I_F=I_{F(AV)}$	$V_F$	1.3		1.5		1.6		0.85 <sup>4)</sup>	V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	10.0					50.0	10.0	$\mu\text{A}$
		300.0			500.0		300.0		
Maximum reverse recovery time (Note1)	$t_{rr}$	100						50	ns
Typical junction capacitance (Note2)	$C_J$	70			50				pF
Typical thermal resistance (Note3)	$R_{\theta JL}$	8							$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	- 55 ----- + 150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ----- + 150							$^\circ\text{C}$

NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

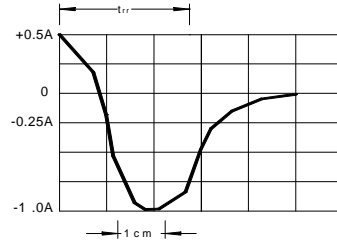
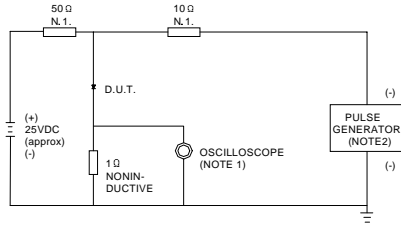
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

4.  $I_{F(AV)}=2.0\text{A}$

## Ratings AND Characteristic Curves

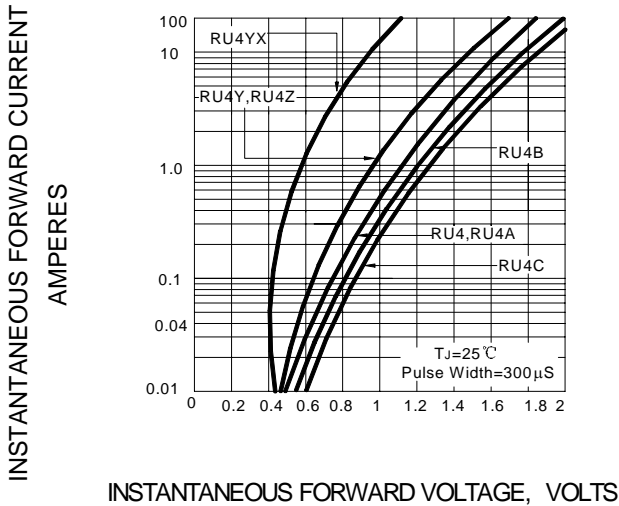
**FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



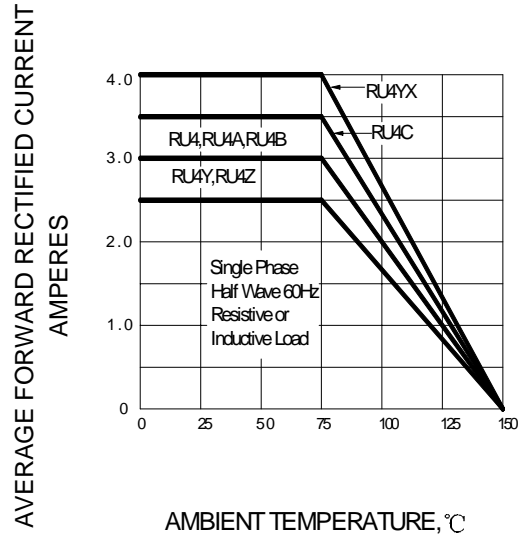
NOTES: 1. RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ, 22pF.  
2. RISE TIME = 10ns MAX.SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 10/20 ns/cm

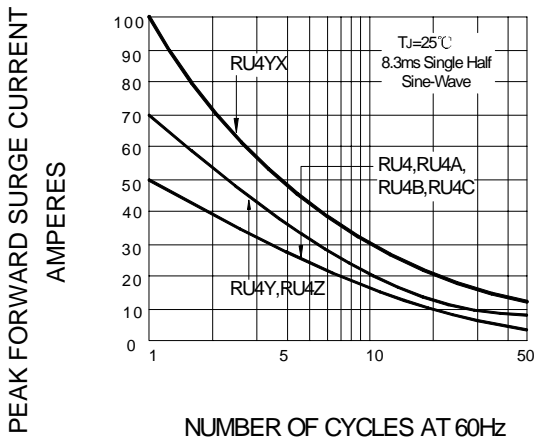
**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 – FORWARD DERATING CURVE**



**FIG.4 – PEAK FORWARD SURGE CURRENT**



**FIG.5 – TYPICAL JUNCTION CAPACITANCE**

