



# MURS405-MURS460

Surface Mount Rectifiers



**VOLTAGE RANGE: 50 --- 600 V**

**CURRENT: 4.0 A**

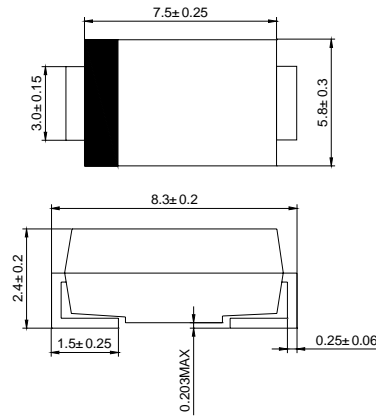
**SMC(DO-214AB)**

## Features

- ◇ Low cost
- ◇ Glass passivated chip junction
- ◇ 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 SMC, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.007 ounces, 0.21 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%.

		MURS 405	MURS 410	MURS 415	MURS 420	MURS 430	MURS 440	MURS 450	MURS 460	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current @ $T_A = 75^\circ\text{C}$	$I_{F(AV)}$	4.0								A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J = 125^\circ\text{C}$	$I_{FSM}$	125.0								A
Maximum instantaneous forward voltage @ 4.0A	$V_F$	0.89				1.28				V
Maximum reverse current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 125^\circ\text{C}$	$I_R$	10.0				100.0				$\mu\text{A}$
Maximum reverse recovery time (Note1)	$t_{rr}$	25				50				ns
Typical junction capacitance (Note2)	$C_J$	95								pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	20								$^\circ\text{C/W}$
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  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $t_{rr} = 0.25\text{A}$ .

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

3. Thermal resistance from junction to ambient.

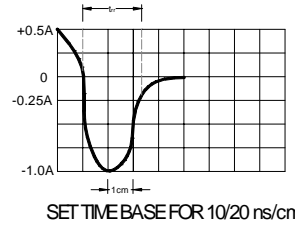
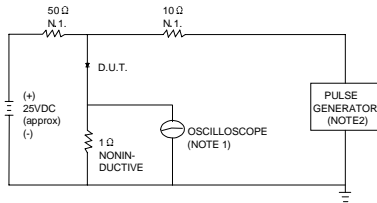


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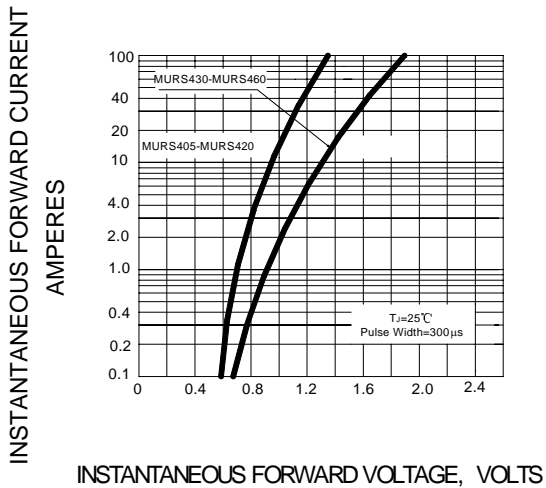
## Ratings AND Characteristic Curves

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

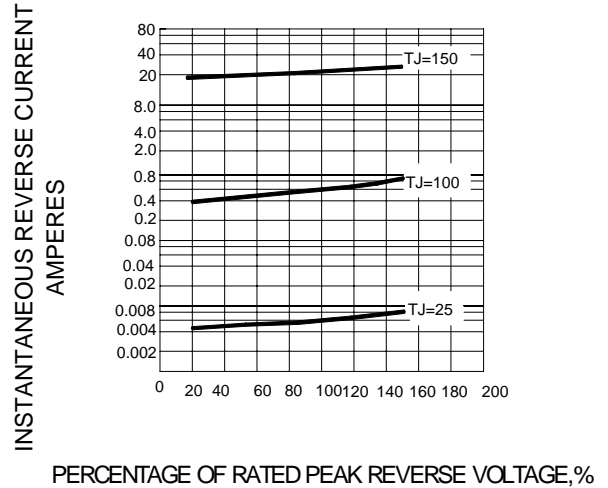


NOTES: 1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ · 22pF.  
2. RISE TIME = 10ns MAX SOURCE IMPEDANCE = 50 Ω.

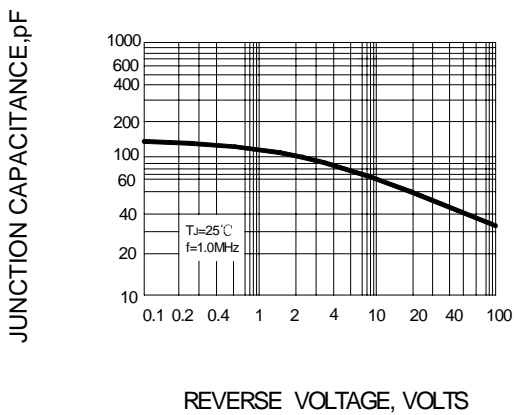
**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 – TYPICAL REVERSE CHARACTERISTIC**



**FIG.4 – TYPICAL JUNCTION CAPACITANCE**



**FIG.5 – FORWARD DERATING CURVE**

