

Pb Free Plating Product

MURF820 thru MURF880



8.0 Ampere Insulated Glass Passivated Ultra Fast Recovery Rectifiers

**Feature**

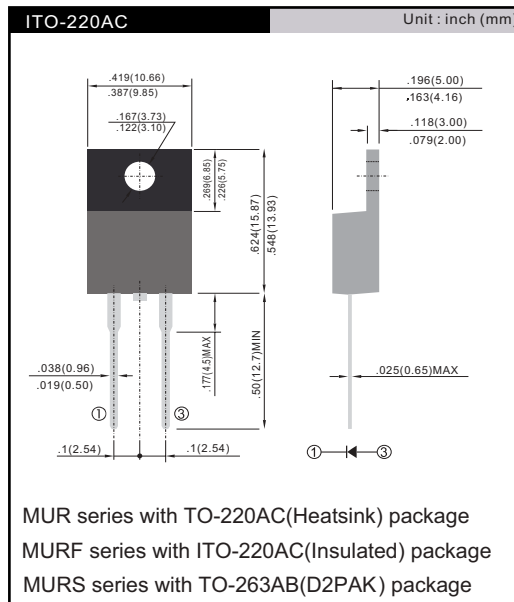
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

**Application**

- \* Switching mode power supply
- \* Inverter/converter
- \* TV receiver, monitor/set top box

**Mechanical Data**

- \* Case: Molded plastic Isolated/Insulated ITO-220AC
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solderable per MIL-STD-202 method 208
- \* Polarity: As marked on diode body
- \* Mounting position: Any
- \* Weight: 2.03 grams approximately



MAXIMUM RATINGS (T <sub>C</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	MURF820	MURF840	MURF860	MURF880	UNIT
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	200	400	600	800	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	400	600	800	V
Maximum average forward rectified current at T <sub>C</sub> = 100 °C	I <sub>F(AV)</sub>	8.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100				A
Maximum slope of reverse recovery current I <sub>F</sub> = 2.0 A, V <sub>R</sub> = 30 V, di/dt = 20 μs	di/dt	60				A/μs
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 40 to + 150				°C
Isolation voltage (ITO-220AC only) from terminal to heatsink t = 1 min	V <sub>AC</sub>	1500				V

ELECTRICAL CHARACTERISTICS (T <sub>C</sub> = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	MURF820	MURF840	MURF860	MURF880	UNIT
Maximum instantaneous forward voltage (1)	8.0 A	V <sub>F</sub>	0.98	1.3	1.7	1.8	V
Maximum DC reverse current at rated DC blocking voltage	T <sub>J</sub> = 25 °C T <sub>J</sub> = 125 °C	I <sub>R</sub>	10 250				μA
Maximum reverse recovery time	I <sub>F</sub> = 1.0 A, V <sub>R</sub> = 30 V, di/dt = 50 A/μs, I <sub>rr</sub> = 10 % I <sub>RM</sub>	t <sub>rr</sub>	35			50	ns
Maximum recovered stored charge	I <sub>F</sub> = 2.0 A, V <sub>R</sub> = 30 V, di/dt = 20 A/μs	Q <sub>rr</sub>	700				nC

Note: (1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T <sub>C</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MURseries	MURF series	MURS series	UNIT
Typical thermal resistance from junction to case	R <sub>θJC</sub>	2.0	4.8	2.0	°C/W
Typical thermal resistance from junction to air	R <sub>θJA</sub>	20	-	20	°C/W

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

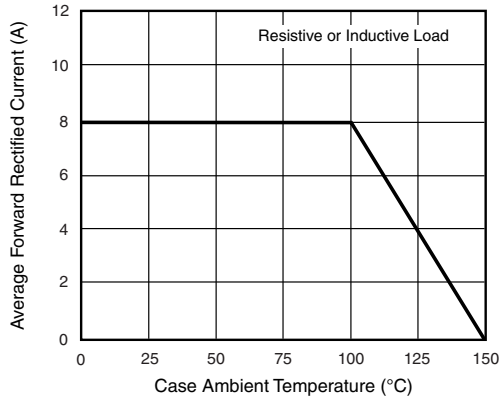


Figure 1. Forward Current Derating Curve

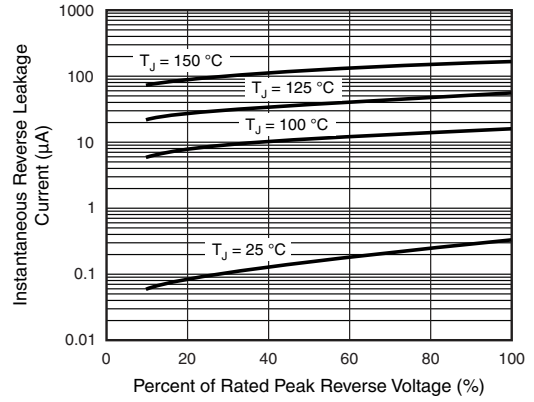


Figure 4. Typical Reverse Leakage Characteristics

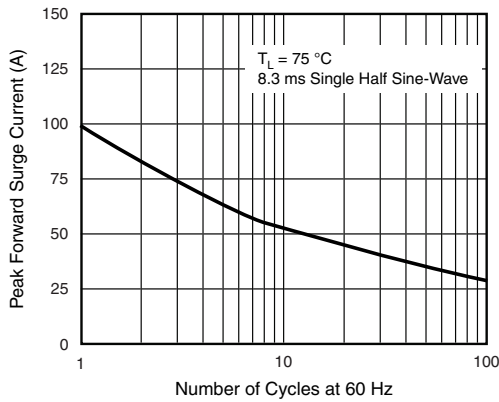


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

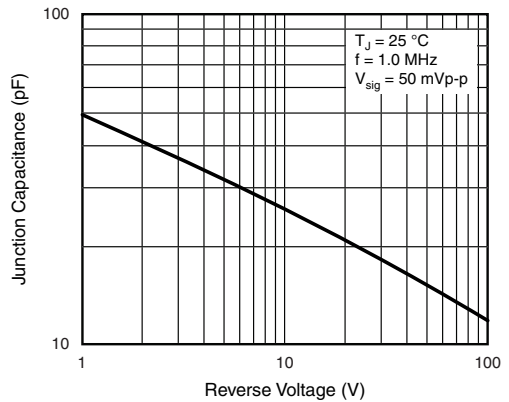


Figure 5. Typical Junction Capacitance

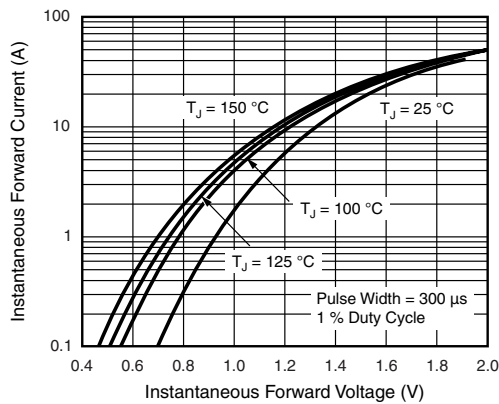


Figure 3. Typical Instantaneous Forward Characteristics