THINKI SEMICONDUCTOR ®

Pb Free Plating Product

MURF820 thru MURF880

RoHS Pb

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

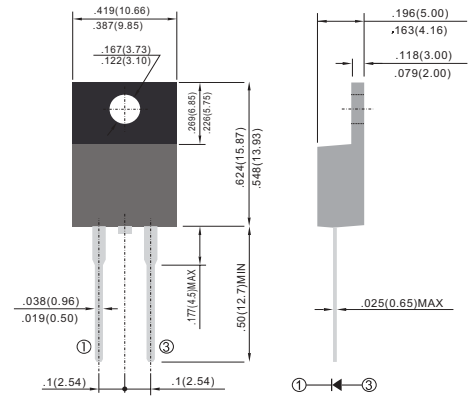
Application

- ✶ 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

ITO-220AC Unit : inch (mm)



MUR series with TO-220AC(Heatsink) package
MURF series with ITO-220AC(Insulated) package
MURS series with TO-263AB(D2PAK) package

MAXIMUM RATINGS (T_C = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	MURF820	MURF840	MURF860	MURF880	UNIT
Maximum recurrent peak reverse voltage	V_{RRM}	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	V
Maximum average forward rectified current at T_C = 100 °C	$I_{F(AV)}$	8.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100				A
Maximum slope of reverse recovery current I_F = 2.0 A, V_R = 30 V, dI/dt = 20 µs	dI/dt	60				A/µs
Operating junction and storage temperature range	T_J, T_{STG}	- 40 to + 150				°C
Isolation voltage (ITO-220AC only) from terminal to heatsink t = 1 min	V_{AC}	1500				V

ELECTRICAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	MURF820	MURF840	MURF860	MURF880	UNIT
Maximum instantaneous forward voltage (1)	8.0 A		V_F	0.98	1.3	1.7	1.8	V
Maximum DC reverse current at rated DC blocking voltage		T_J = 25 °C T_J = 125 °C	I_R	10 250				µA
Maximum reverse recovery time	I_F = 1.0 A, V_R = 30 V, dI/dt = 50 A/µs, I_{rr} = 10 % I_{RM}		t_{rr}	35			50	ns
Maximum recovered stored charge	I_F = 2.0 A, V_R = 30 V, dI/dt = 20 A/µs		Q_{rr}	700				nC

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

THERMAL CHARACTERISTICS (T_C = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	MUR series	MURF series	MURS series	UNIT
Typical thermal resistance from junction to case	$R_{\theta JC}$	2.0	4.8	2.0	°C/W
Typical thermal resistance from junction to air	$R_{\theta JA}$	20	-	20	°C/W

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

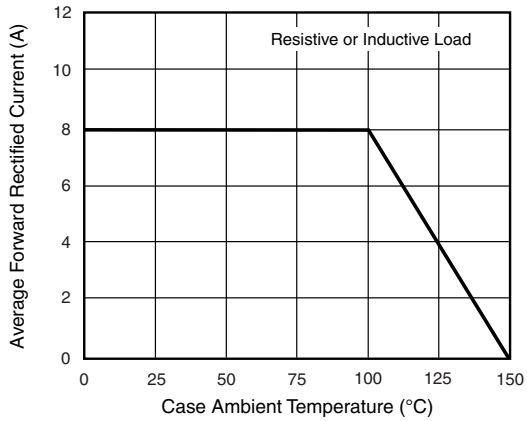


Figure 1. Forward Current Derating Curve

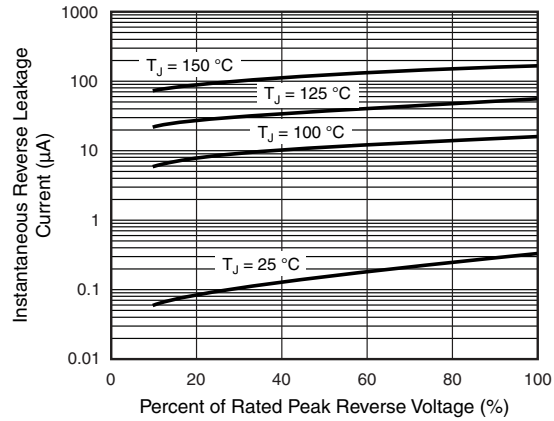


Figure 4. Typical Reverse Leakage Characteristics

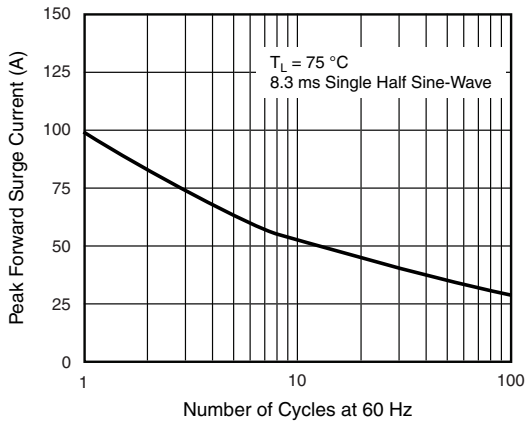


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

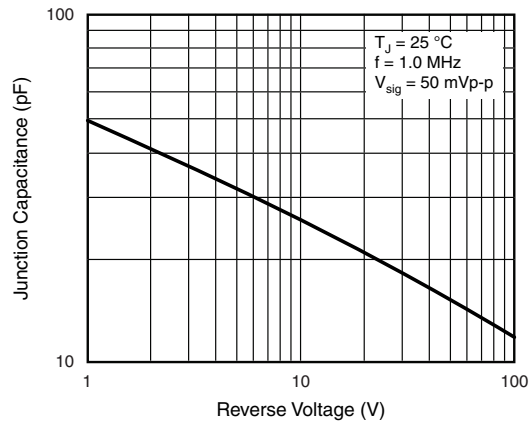


Figure 5. Typical Junction Capacitance

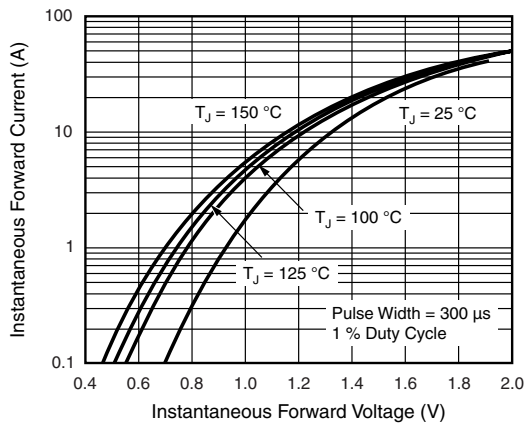


Figure 3. Typical Instantaneous Forward Characteristics