

Pb Free Plating Product

MUR6020PTR/MUR6040PTR/MUR6060PTR



60 Amperes HeatSink Dual Common Anode Ultra Fast Recovery Rectifiers

Features

- * Latest GPP technology with super fast recovery time
- * Low forward voltage drop
- * High current capability
- * Low reverse leakage current
- * High surge current capability

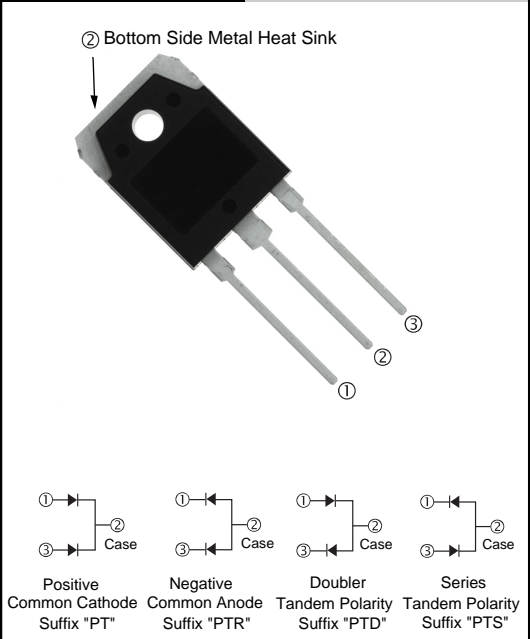
Application

- * Automotive Inverters/Solar Inverters
- * Plating Power Supply, SMPS, Adapter and UPS
- * Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- * Case: TO-3PN/TO-3PB
- * 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: 6.0 gram approximately

TO-3PN/TO-3PB



Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

1. Pulse Test: Pulse Width = 300 μ s, Duty Cycle \leq 2.0%.

MAXIMUM RATINGS

Rating	Symbol	MUR6020PTR	MUR6040PTR	MUR6060PTR	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	400	600	V
Average Rectified Forward Current (Rated V_R) Per Leg Per Device	$I_{F(AV)}$	30 @ $T_C = 150^\circ C$ 60 @ $T_C = 150^\circ C$			A
Peak Rectified Forward Current, Per Leg (Rated V_R , Square Wave, 20 kHz, $T_C = 150^\circ C$)	I_{FRM}	60 @ $T_C = 150^\circ C$		60 @ $T_C = 145^\circ C$	A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz) Per Leg	I_{FSM}	600			A
Operating Junction and Storage Temperature	T_J, T_{stg}	- 65 to +175			$^\circ C$

THERMAL CHARACTERISTICS (Per Diode Leg)

Maximum Thermal Resistance, - Junction-to-Case - Junction-to-Ambient	$R_{\theta JC}$ $R_{\theta JA}$	1.5 40	$^\circ C/W$
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ELECTRICAL CHARACTERISTICS (Per Diode Leg)

Maximum Instantaneous Forward Voltage (Note 1) ($I_F = 30$ Amp, $T_C = 150^\circ C$) ($I_F = 30$ Amp, $T_C = 25^\circ C$)	V_F	0.95 1.05	1.20 1.30	1.5 1.7	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_J = 150^\circ C$) (Rated DC Voltage, $T_J = 25^\circ C$)	i_R	5000 60		5000 60	μA
Maximum Reverse Recovery Time ($i_F = 1.0$ A, $di/dt = 50$ A/ μs)	t_{rr}	35	50		ns

Ultra Fast Recovery Diodes

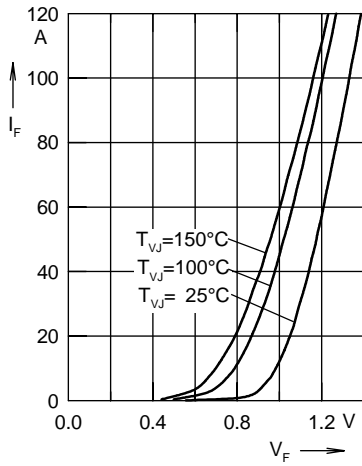


Fig. 1 Forward current I_F versus V_F

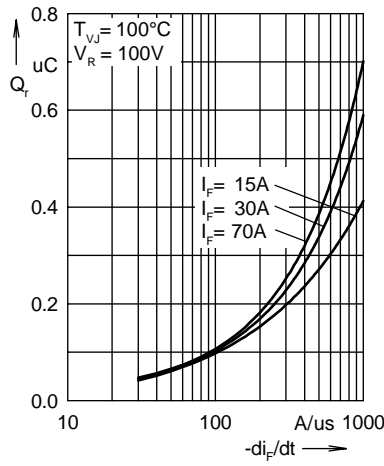


Fig. 2 Typ. reverse recovery charge Q_r versus $-di_F/dt$

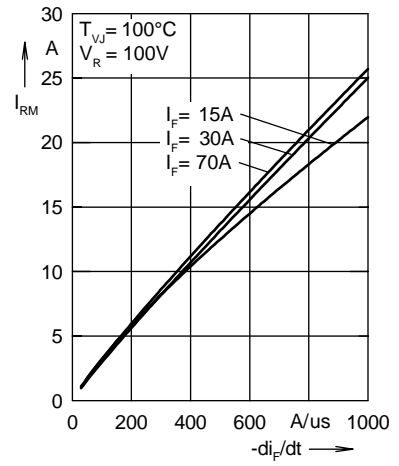


Fig. 3 Typ. peak reverse current I_{RM} versus $-di_F/dt$

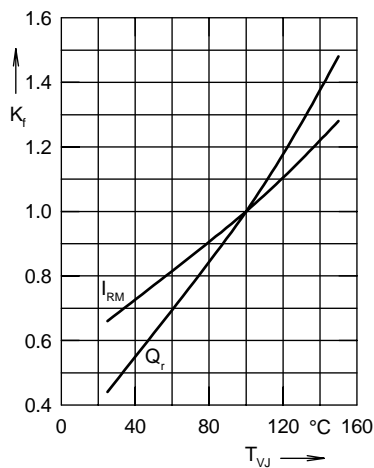


Fig. 4 Dynamic parameters Q_r , I_{RM} versus T_{VJ}

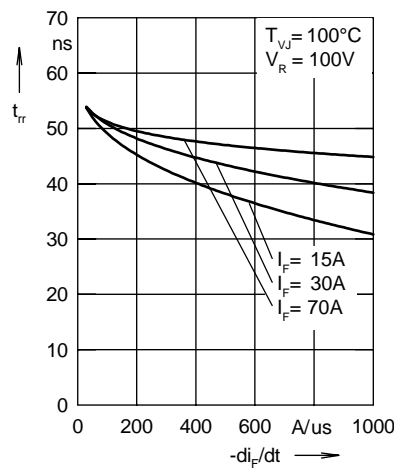


Fig. 5 Typ. recovery time t_{rr} versus $-di_F/dt$

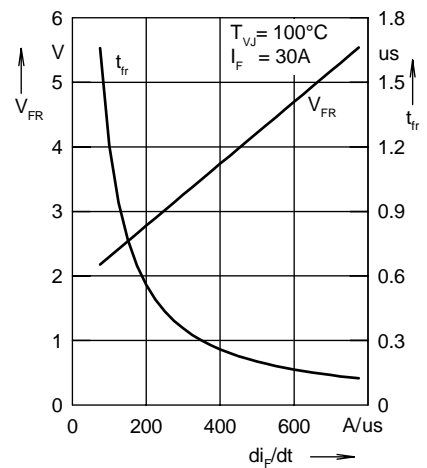


Fig. 6 Typ. peak forward voltage V_{FR} and t_{fr} versus di_F/dt

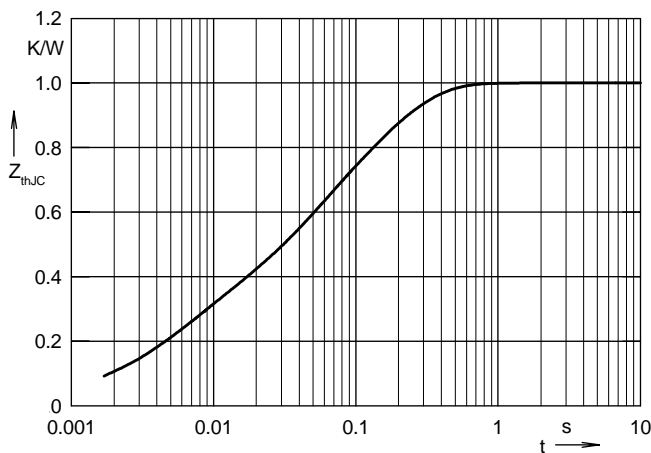


Fig. 7 Transient thermal impedance junction to case