New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

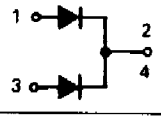
Switchmode Power Rectifiers

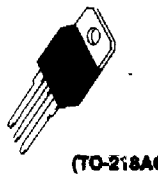
MUR3005PT thru MUR3060PT

. . . designed for use in switching power supplies, inverters and as free wheeling diodes, these state-of-the-art devices have the following features:

- Ultrafast 35 and 60 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- High Voltage Capability to 600 Volts
- Low Forward Drop
- Low Leakage Specified @ 150°C Case Temperature
- Current Derating Specified @ Both Case and Ambient Temperatures
- Epoxy Meets UL94, V_O @ 1/8"
- High Temperature Glass Passivated Junction

ULTRAFAST RECTIFIERS
30 AMPERES
50–600 VOLTS





(TO-218AC)

MAXIMUM RATINGS

Rating	Symbol	MUR 3005PT	3010PT	3015PT	3020PT	3030PT	3040PT	3050PT	3060PT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	500	600	Volts
Average Rectified Forward Current (Rated V_R) Per Leg Per Device	$I_{F(AV)}$	15 30	T_C = 150°C					15 30	T_C = 145°C	Amps
Peak Repetitive Forward Current, Per Leg (Rated V_R, Square Wave, 20 kHz), T_C = 150°C	I_{FRM}	30 @ T_C = 150°C						30 @ T_C = 145°C		Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) Per Leg	I_{FSM}	200				150				Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	−65 to +175								°C

THERMAL CHARACTERISTICS PER DIODE LEG

Maximum Thermal Resistance, Junction to Case Junction to Ambient	$R_{\theta JC}$ $R_{\theta JA}$	1.5 40	°C/W °C/W

ELECTRICAL CHARACTERISTICS PER DIODE LEG

Maximum Instantaneous Forward Voltage (1) (i_F = 15 Amps, T_C = 150°C) (i_F = 15 Amps, T_C = 25°C)	v_F	0.85 1.05		1.12 1.25	1.2 1.5	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T_C = 150°C) (Rated dc Voltage, T_C = 25°C)	I_R	500 10			1000 10	μA
Maximum Reverse Recovery Time (I_F = 1 Amp, di/dt = 50 Amps/μs)	t_{rr}	35		60		ns

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2%.

Quality Semi-Conductors