



**MUR1505
MUR1510
MUR1515
MUR1520**

SWITCHMODE POWER RECTIFIERS

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 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220 Package

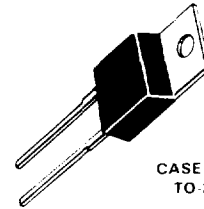
**ULTRAFAST
RECTIFIERS**

**15 AMPERES
50-200 VOLTS**

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CROSS-REFERENCE GUIDE

MOTOROLA	RCA
MUR1505	—
MUR1510	TA9225A
MUR1515	TA9225B
MUR1520	TA9225C



CASE 221B-01
TO-220AC

MAXIMUM RATINGS

Rating	Symbol	MUR1505	MUR1510	MUR1515	MUR1520	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	Volts
Average Rectified Forward Current ($T_C = 150^\circ\text{C}$ (Rated V_R))	$I_{F(AV)}$	15	15	15	15	Amps
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 kHz) $T_C = 150^\circ\text{C}$	I_{FRM}	30	30	30	30	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave single phase, 60 Hz)	I_{FSM}	200	200	200	200	Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	-65 to +175	-65 to +175	-65 to +175	-65 to +175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	1.5	1.5	1.5	1.5	$^\circ\text{C/W}$
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ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) ($I_F = 15$ Amp, $T_C = 150^\circ\text{C}$) ($I_F = 15$ Amp, $T_C = 25^\circ\text{C}$)	V_F	0.85 1.05	0.85 1.05	0.85 1.05	0.85 1.05	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 150^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	I_R	500 10	500 10	500 10	500 10	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amp/ μs)	t_{rr}	35	35	35	35	ns

(1) Pulse Test: Pulse Width = 300 μs Duty Cycle \leq 2.0%

MUR1505, MUR1510, MUR1515, MUR1520

FIGURE 1 — TYPICAL FORWARD VOLTAGE

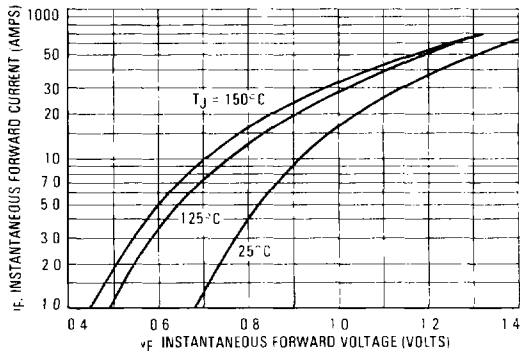


FIGURE 2 — TYPICAL REVERSE CURRENT

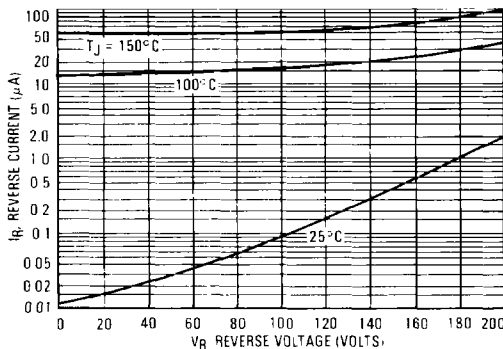


FIGURE 3 — CURRENT DERATING, CASE

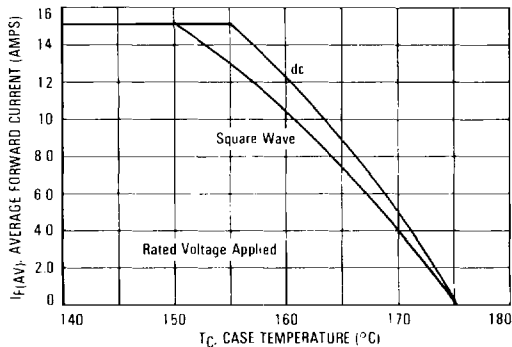


FIGURE 4 — CURRENT DERATING, AMBIENT

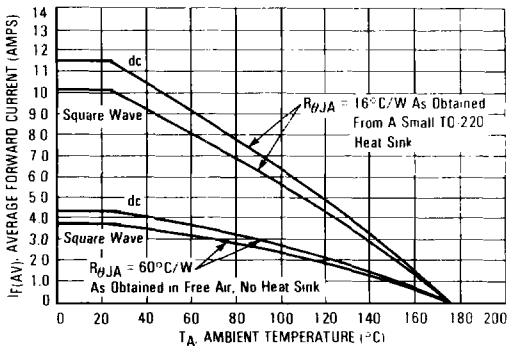
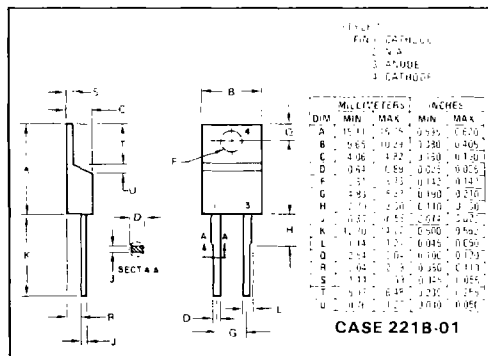
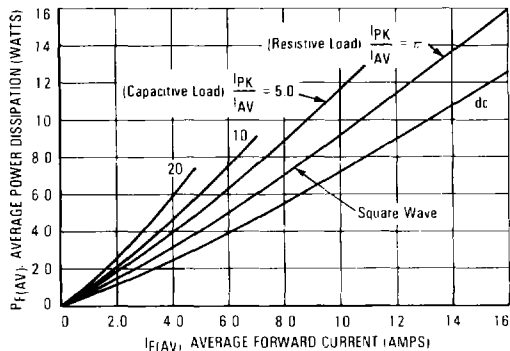


FIGURE 5 — POWER DISSIPATION



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