MOTOROLA

MUR2505
MUR2510
MUR2515
MUR2520

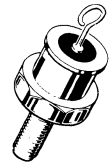
SWITCHMODE POWER RECTIFIERS

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

- Ultrafast 50 Nanosecond Recovery Time
- Low Forward Voltage Drop
- Hermetically Sealed Metal DO-203AA (DO-4) Package

ULTRAFAST RECTIFIERS

25 AMPERES
50 to 200 VOLTS



MAXIMUM RATINGS

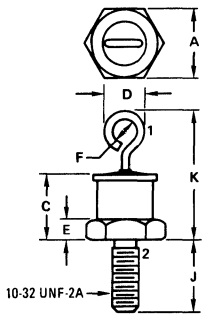
Rating	Symbol	MUR 2505	MUR 2510	MUR 2515	MUR 2520	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	Volts
Nonrepetitive Peak Reverse Voltage	V_{RSM}	55	110	165	220	Volts
Average Forward Current T_C = 145°C	$I_{F(AV)}$	25				Amps
Nonrepetitive Peak Surge Forward Current (half cycle, 60 Hz, Sinusoidal Waveform)	I_{FSM}	500				Amps
Operating Junction and Storage Temperature	T_J, T_{stg}	-65 to +175				°C

THERMAL CHARACTERISTICS

Rating	Symbol	All Devices	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.3	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage Drop (i_F = 25 Amp, T_J = 25°C) (i_F = 25 Amp, T_J = 125°C) (i_F = 50 Amp, T_J = 125°C)	v_F	 0.95 0.80 0.88	Volts
Maximum Reverse Current @ DC Voltage (T_J = 25°C) (T_J = 125°C)	I_R	 10 1.0	 μA mA
Maximum Reverse Recovery Time (I_F = 1.0 Amp, di/dt = 50 Amp/μs, V_R = 30 V, T_J = 25°C)	t_{rr}	50	ns



DIM	MILLIMETERS MIN	MILLIMETERS MAX	INCHES MIN	INCHES MAX
A	10.77	11.10	0.424	0.437
C	–	10.29	–	0.405
D	–	6.35	–	0.250
E	1.91	4.45	0.075	0.175
F	1.52	–	0.060	–
J	10.72	11.51	0.422	0.453
K	–	20.32	–	0.800

CASE 245-01
DO-203AA
(DO-4)

MECHANICAL CHARACTERISTICS

Case: Welded, hermetically sealed

Finish: All external surface corrosion resistant and terminal leads are readily solderable

Polarity: Cathode to Case

Mounting Positions: Any

Stud Torque: 15 in/lb. Max

Switchmode is a trademark of Motorola Inc.

FIGURE 1 — TYPICAL FORWARD VOLTAGE

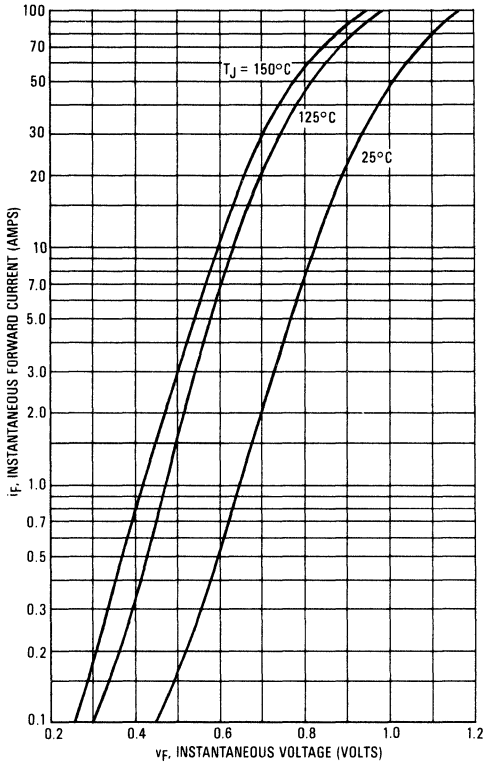
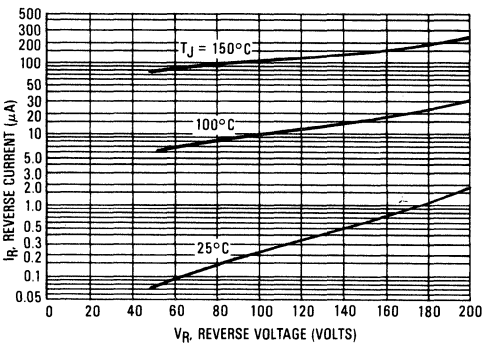


FIGURE 2 — TYPICAL REVERSE CURRENT*



*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R.

FIGURE 3 — CURRENT DERATING, CASE

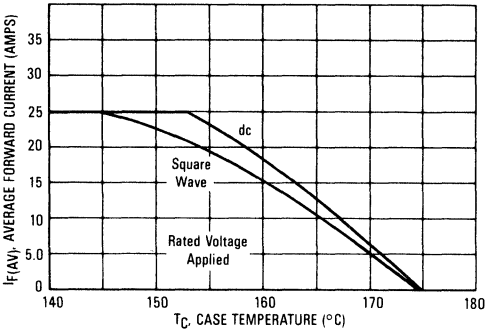


FIGURE 4 — POWER DISSIPATION

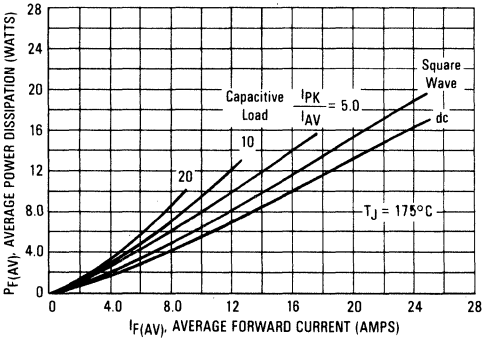


FIGURE 5 — TYPICAL CAPACITANCE

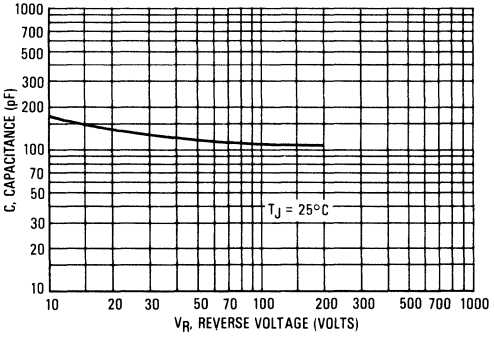


FIGURE 6 — THERMAL RESPONSE