SCANSWITCH™ Power Rectifier
For High and Very High Resolution Monitors

MUR10120E

Motorola Preferred Device

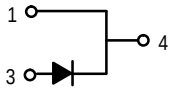
SCANSWITCH
RECTIFIER
10 AMPERES
1200 VOLTS

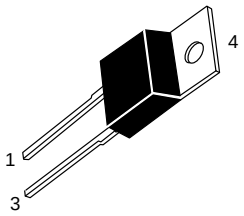
This state–of–the–art power rectifier is specifically designed for use as a damper diode in horizontal deflection circuits for high and very high resolution monitors. In these applications, the outstanding performance of the MUR10120E is fully realized when paired with either the MJH16206 or MJF16206 monitor specific, 1200 volt bipolar power transistor.

- 1200 Volt Blocking Voltage
- 20 mJ Avalanche Energy (Guaranteed)
- 12 Volt (Typical) Peak Transient Overshoot Voltage
- 135 ns (Typical) Forward Recovery Time

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: U10120E





CASE 221B–03
(TO–220AC)
STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	1200	Volts
Average Rectified Forward Current (Rated V_R) T_C = 125°C	$I_{F(AV)}$	10	Amps
Peak Repetitive Forward Current, Per Leg (Rated V_R, Square Wave, 20 kHz) T_C = 125°C	I_{FRM}	20	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	100	Amps
Operating Junction Temperature	T_J	– 65 to +125	°C
Controlled Avalanche Energy	W_{AVAL}	20	mJ

THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Case	$R_{\theta JC}$	2.0	°C/W

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

SCANSWITCH is a trademark of Motorola, Inc.

Preferred devices are Motorola recommended choices for future use and best overall value.

Rev 1

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Maximum Instantaneous Forward Voltage (1) (i_F = 6.5 Amps, T_J = 125°C) (i_F = 6.5 Amps, T_J = 25°C)	v_F	 1.7 1.9	 2.0 2.2	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T_J = 25°C) (Rated dc Voltage, T_J = 125°C)	i_R	 25 750	 100 1000	μA
Maximum Reverse Recovery Time (I_F = 1.0 A, di/dt = 50 Amps/μs)	t_{rr}	150	175	ns
Maximum Forward Recovery Time I_F = 6.5 Amps, di/dt = 12 Amps/μs (As Measured on a Deflection Circuit)	t_{fr}	135	175	ns
Peak Transient Overshoot Voltage	V_{RFM}	12	14	Volts

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

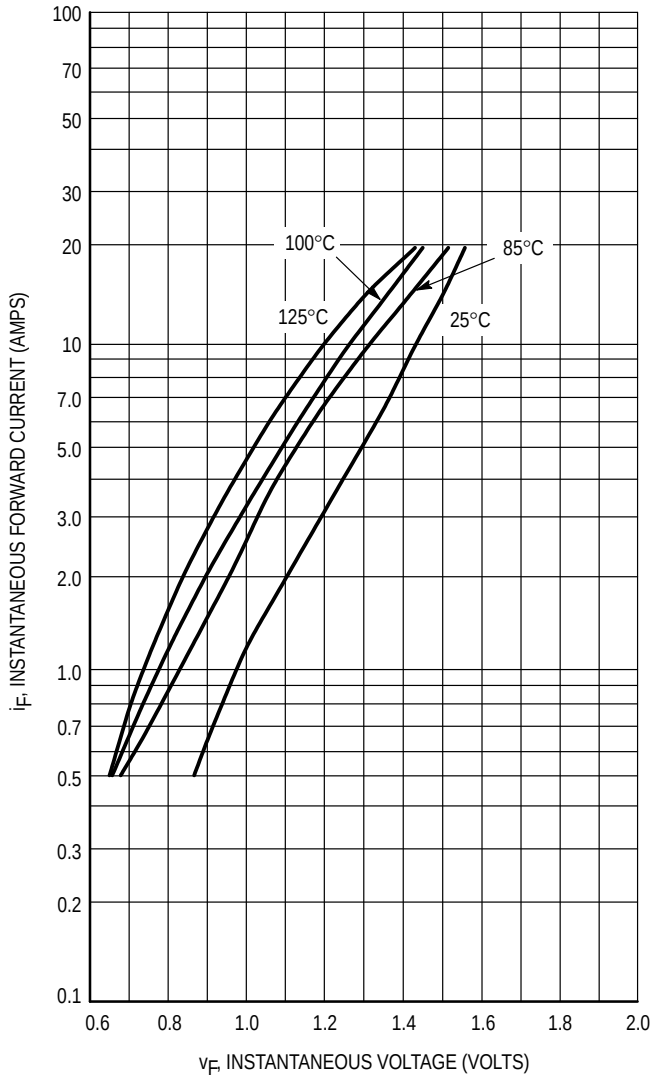


Figure 1. Typical Forward Voltage

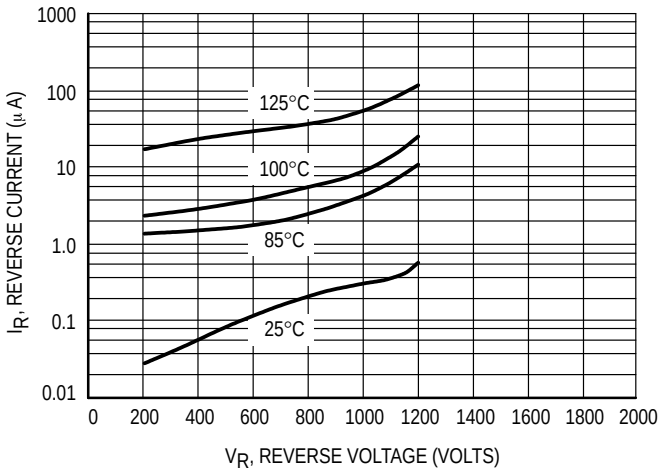


Figure 2. Typical Reverse Current

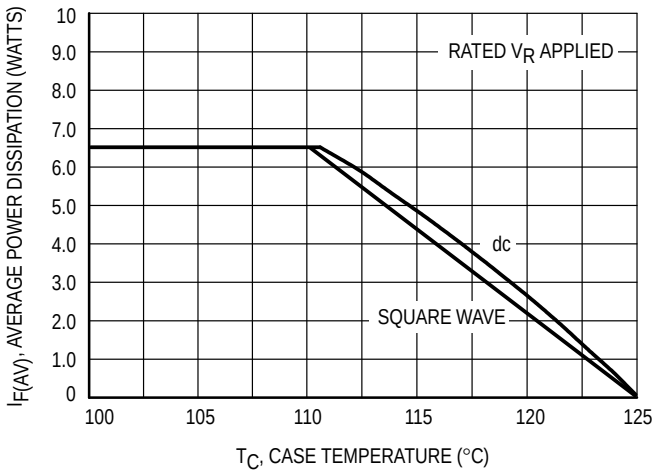


Figure 3. Current Derating, Case

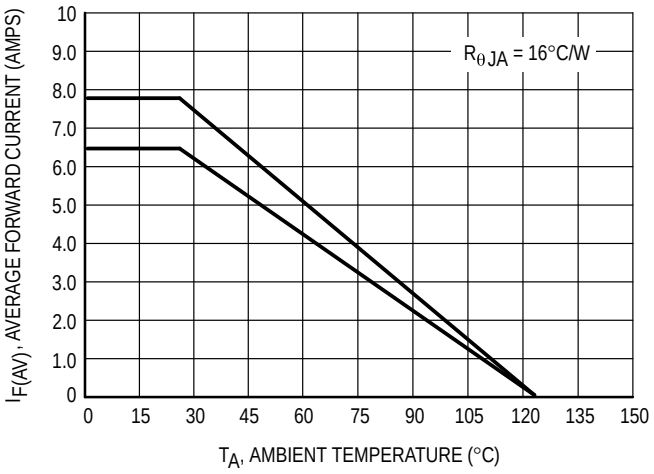


Figure 4. Current Derating, Ambient

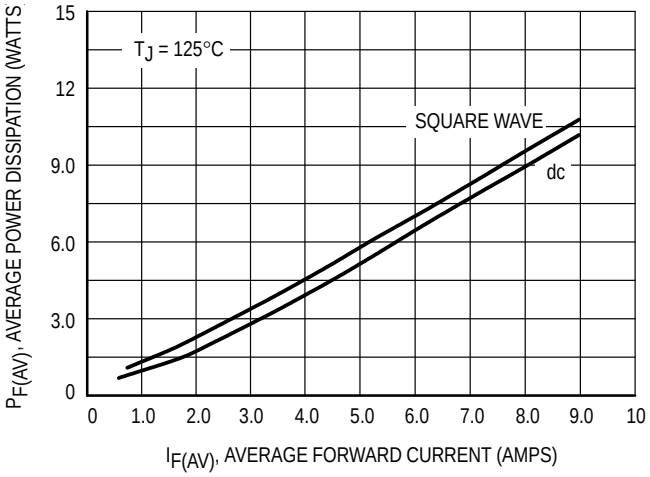


Figure 5. Power Dissipation

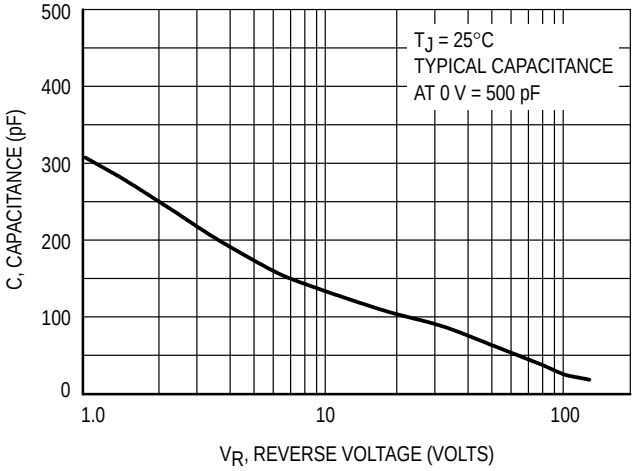
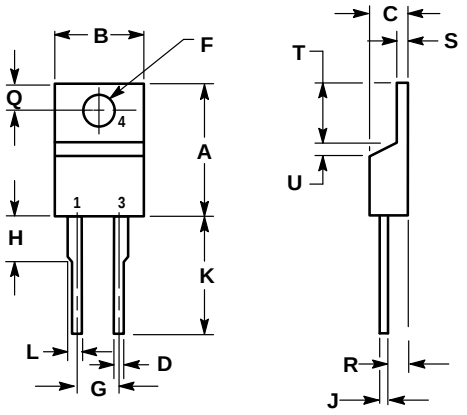


Figure 6. Typical Capacitance

PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.595	0.620	15.11	15.75
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.82
D	0.025	0.035	0.64	0.89
F	0.142	0.147	3.61	3.73
G	0.190	0.210	4.83	5.33
H	0.110	0.130	2.79	3.30
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.14	1.52
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.14	1.39
T	0.235	0.255	5.97	6.48
U	0.000	0.050	0.000	1.27

STYLE 1:
PIN 1. CATHODE
2. N/A
3. ANODE
4. CATHODE

CASE 221B–03
ISSUE B

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