

MUR10120E

Preferred Device

SCANSWITCH™ Power Rectifier

For High and Very High Resolution Monitors

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.

- 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

MAXIMUM RATINGS

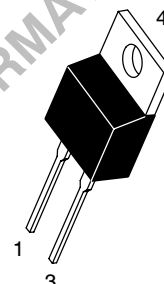
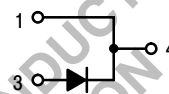
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	1200	V
Average Rectified Forward Current (Rated V_R , $T_C = 125^\circ\text{C}$)	$I_{F(AV)}$	10	A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 kHz, $T_C = 125^\circ\text{C}$) Per Leg	I_{FRM}	20	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	100	A
Operating Junction Temperature Range	T_J	-65 to +125	°C
Controlled Avalanche Energy	W_{AVAL}	20	mJ



ON Semiconductor™

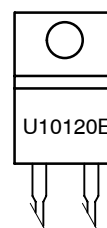
<http://onsemi.com>

SCANSWITCH RECTIFIER 10 AMPERES 1200 VOLTS



TO-220AC
CASE 221B
STYLE 1

MARKING DIAGRAM



U10120E = Device Code

ORDERING INFORMATION

Device	Package	Shipping
MUR10120E	TO-220	50 Units/Rail

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

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THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance — Junction to Case	$R_{\theta JC}$	2.0	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Maximum Instantaneous Forward Voltage (Note 1.) ($i_F = 6.5$ Amps, $T_J = 125^{\circ}\text{C}$) ($i_F = 6.5$ Amps, $T_J = 25^{\circ}\text{C}$)	V_F	1.7 1.9	2.0 2.2	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_J = 25^{\circ}\text{C}$) (Rated dc Voltage, $T_J = 125^{\circ}\text{C}$)	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 $\leq 2.0\%$.

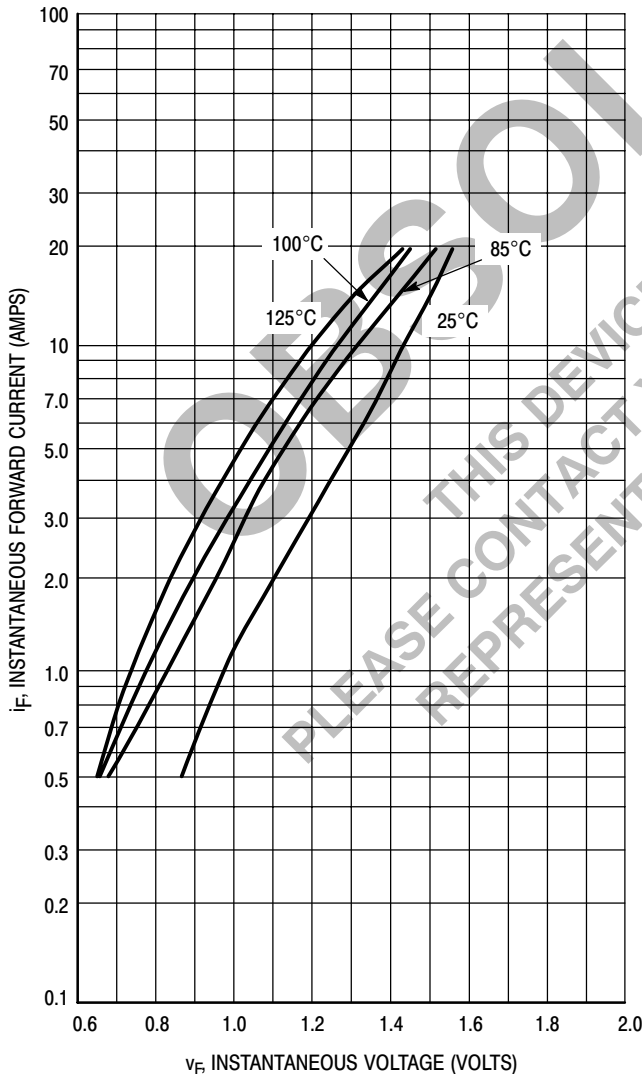


Figure 1. Typical Forward Voltage

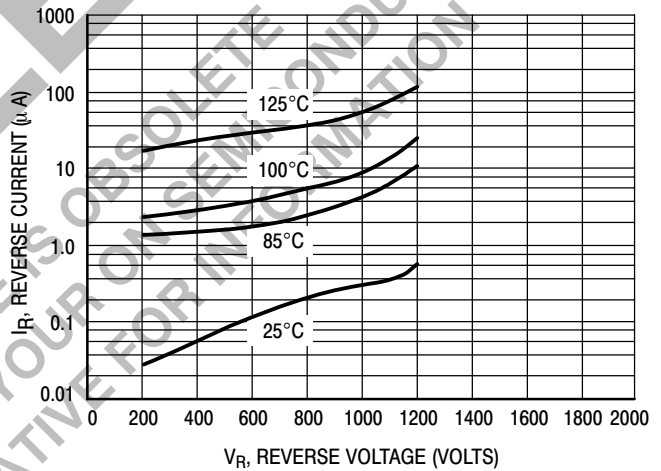


Figure 2. Typical Reverse Current

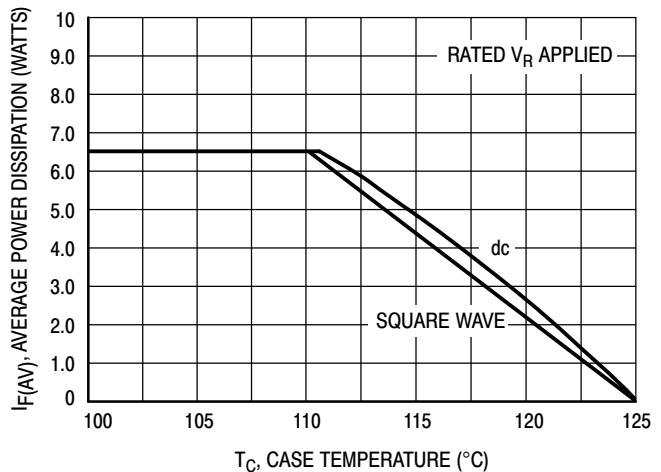


Figure 3. Current Derating, Case

MUR10120E

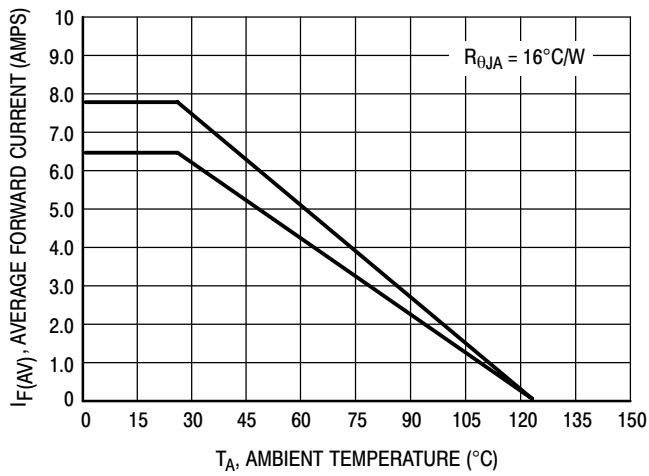


Figure 4. Current Derating, Ambient

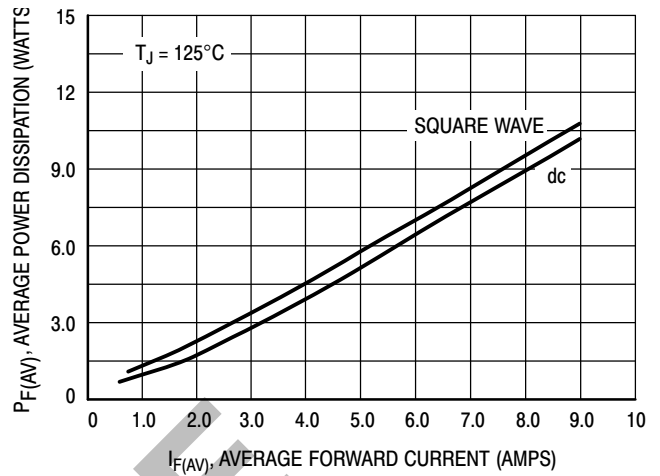


Figure 5. Power Dissipation

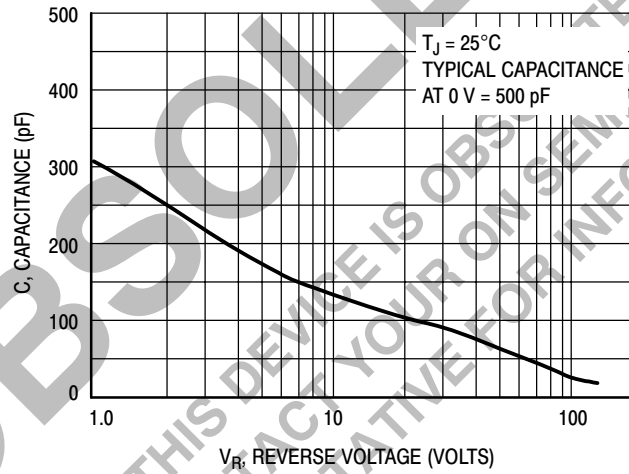
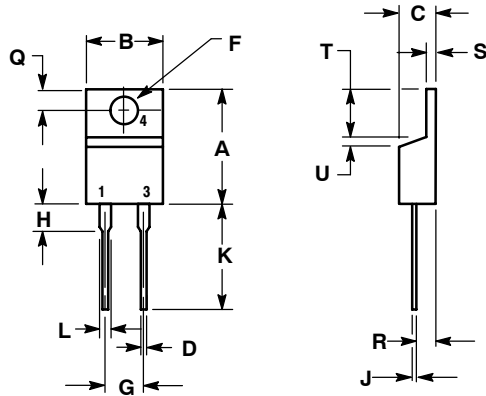


Figure 6. Typical Capacitance

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PACKAGE DIMENSIONS

TO-220 TWO-LEAD CASE 221B-04 ISSUE D



NOTES:


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

DIM	INCHES		MILLIMETERS	
	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:

1. CATHODE
2. N/A
3. ANODE
4. CATHODE

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