Designer's™ Data Sheet

SCANSWITCH™ Power Rectifier

For Use As A Damper Diode In High and Very High Resolution Monitors

The MUR10150E is a state-of-the-art Power Rectifier 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 MUR10150E is fully realized when paired with either the MJW16212 or MJF16212 monitor specific, 1500 V bipolar power transistor.

- 1500 V Blocking Voltage
- 20 mJ Avalanche Energy Guaranteed
- Peak Transient Overshoot Voltage Specified, 14 Volts (typical)
- Forward Recovery Time Specified, 135 ns (typical) Epoxy Meets UL94, VO at 1/8"

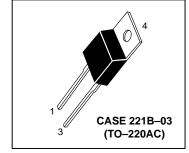
Mechanical Characteristics

- 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
- Shipped 50 units per plastic tube
- Marking: U10150E

MUR10150E

Motorola Preferred Device

SCANSWITCH RECTIFIER 10 AMPERES **1500 VOLTS**



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	1500	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	IFRM	20	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	IFSM	100	Amps
Operating Junction and Storage Temperature	T _J , T _{stg}	-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	ĺ
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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Тур	Max	Unit
Maximum Instantaneous Forward Voltage (1) (iF = 6.5 Amps, T _J = 125°C) (iF = 6.5 Amps, T _J = 25°C)	٧F	1.7 1.9	2.2 2.4	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T _J = 125°C) (Rated dc Voltage, T _J = 25°C)	İR	750 25	1000 100	μА
Maximum Reverse Recovery Time (I _F = 1.0 Amp, di/dt = 50 Amps/μs)	t _{rr}	150	175	ns
Maximum Forward Recovery Time (I _F = 6.5 Amps, di/dt = 12 Amps/μs)	^t fr	135	175	ns
Peak Transient Overshoot Voltage	VRFM	14	16	Volts

(1) Pulse Test: Pulse Width = 300 μ s, Duty Cycle \leq 2.0%

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Designer's Data for "Worst Case" Conditions — The Designer's Data Sheet permits the design of most circuits entirely from the information presented. SOA Limit curves — representing boundaries on device characteristics — are given to facilitate "worst case" design.

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





MUR10150E

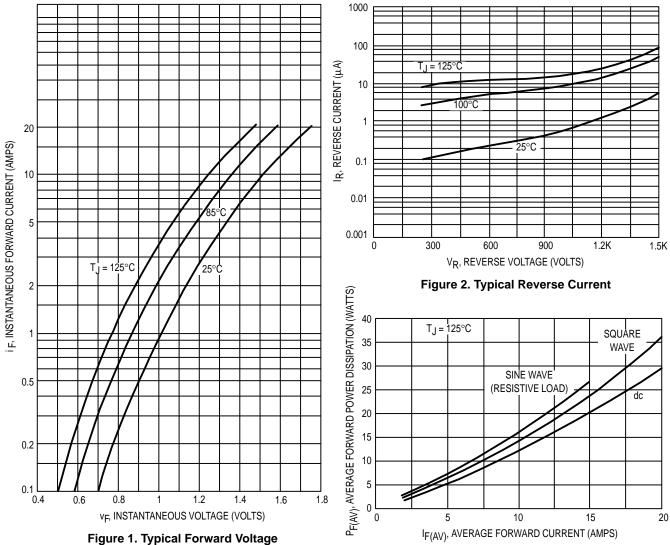


Figure 3. Forward Power Dissipation

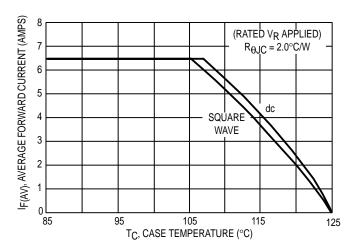


Figure 4. Current Derating Case

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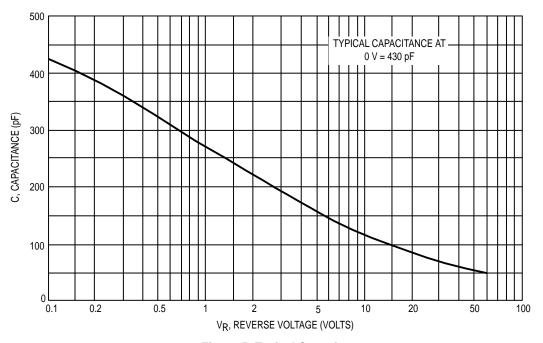


Figure 5. Typical Capacitance

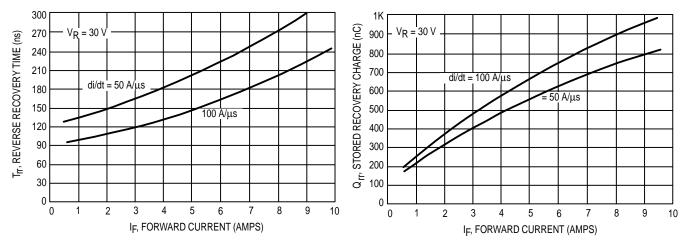
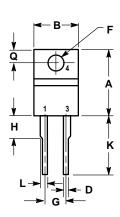


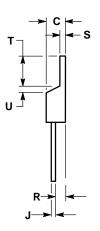
Figure 6. Typical Reverse Recovery Time

Figure 7. Typical Stored Recovery Charge

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PACKAGE DIMENSIONS





NOTES:

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

	INCHES		MILLIMETERS		
DIM	MIN	MAX	MIN	MAX	
Α	0.595	0.620	15.11	15.75	
В	0.380	0.405	9.65	10.29	
С	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	
Н	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	
Т	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

ANODE
 ANODE

CASE 221B-03 (TO-220AC) ISSUE B

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MUR10150E/D

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