

# ON Semiconductor

## Is Now

# onsemi™

To learn more about onsemi™, please visit our website at  
[www.onsemi.com](http://www.onsemi.com)

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# MUR10150E

Preferred Device

## 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.

- 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, V<sub>O</sub> 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 Seconds
- Shipped 50 units per plastic tube
- Marking: U10150E

### MAXIMUM RATINGS

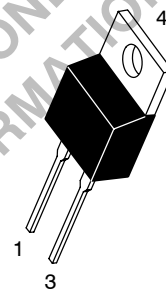
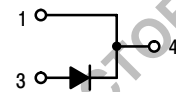
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	1500	V
Average Rectified Forward Current (Rated V <sub>R</sub> , T <sub>C</sub> = 125°C)	I <sub>F(AV)</sub>	10	A
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20 kHz, T <sub>C</sub> = 125°C) Per Leg	I <sub>FRM</sub>	20	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I <sub>FSM</sub>	100	A
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +125	°C
Controlled Avalanche Energy	W <sub>AVAIL</sub>	20	mJ



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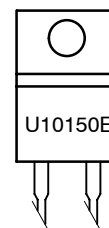
<http://onsemi.com>

### SCANSWITCH RECTIFIER 10 AMPERES, 1500 VOLTS



TO-220AC  
CASE 221B  
STYLE 1

### MARKING DIAGRAM



U10150E = Device Code

### ORDERING INFORMATION

Device	Package	Shipping
MUR10150E	TO-220	50 Units/Rail

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

# MUR10150E

## THERMAL CHARACTERISTICS

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

## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Maximum Instantaneous Forward Voltage (Note 1.) ( $i_F = 6.5$ Amps, $T_J = 125^{\circ}C$ ) ( $i_F = 6.5$ Amps, $T_J = 25^{\circ}C$ )	$V_F$	1.7 1.9	2.2 2.4	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_J = 125^{\circ}C$ ) (Rated dc Voltage, $T_J = 25^{\circ}C$ )	$i_R$	750 25	1000 100	$\mu A$
Maximum Reverse Recovery Time ( $I_F = 1.0$ Amp, $di/dt = 50$ Amps/ $\mu s$ )	$t_{rr}$	150	175	ns
Maximum Forward Recovery Time ( $I_F = 6.5$ Amps, $di/dt = 12$ Amps/ $\mu s$ )	$t_{fr}$	135	175	ns
Peak Transient Overshoot Voltage	$V_{RFM}$	14	16	Volts

1. Pulse Test: Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2.0\%$

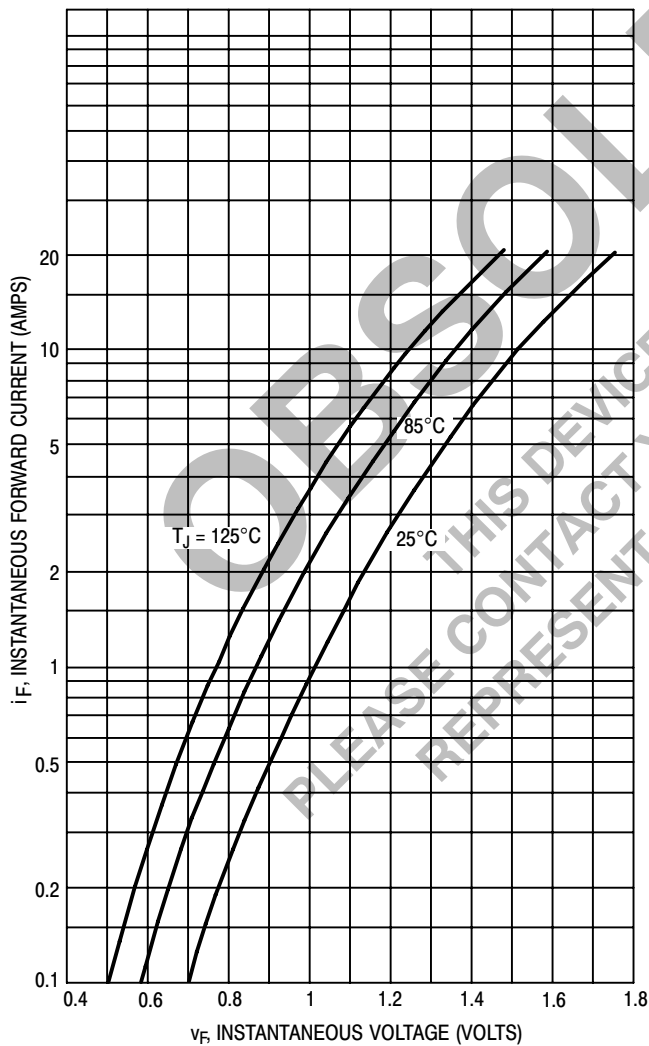


Figure 1. Typical Forward Voltage

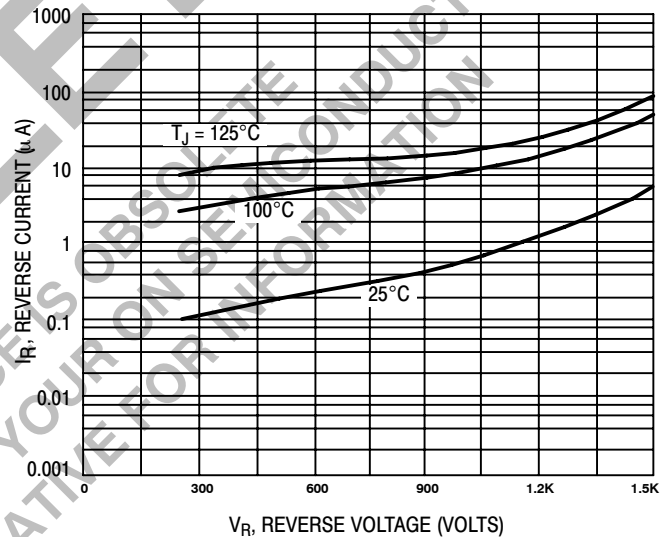


Figure 2. Typical Reverse Current

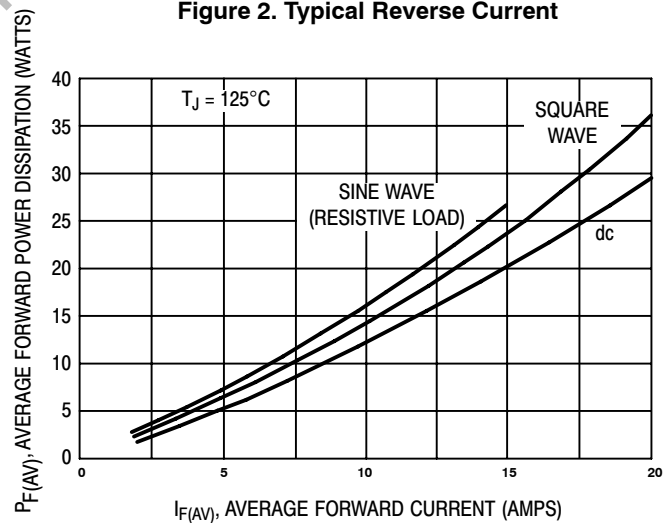


Figure 3. Forward Power Dissipation

# MUR10150E

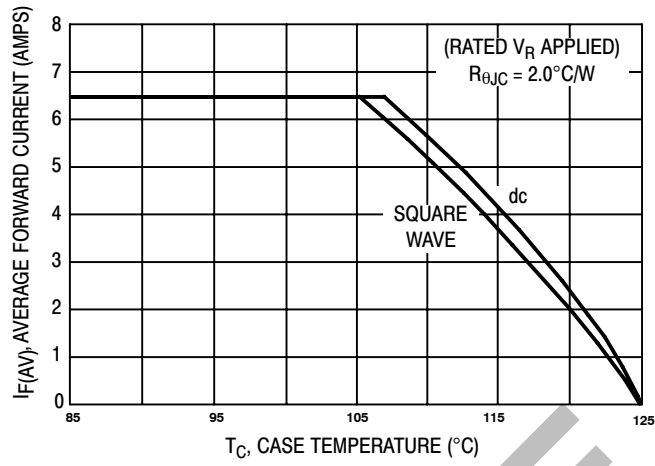


Figure 4. Current Derating Case

**OBSOLETE**  
THIS DEVICE IS OBSOLETE  
PLEASE CONTACT YOUR ON SEMICONDUCTOR  
REPRESENTATIVE FOR INFORMATION

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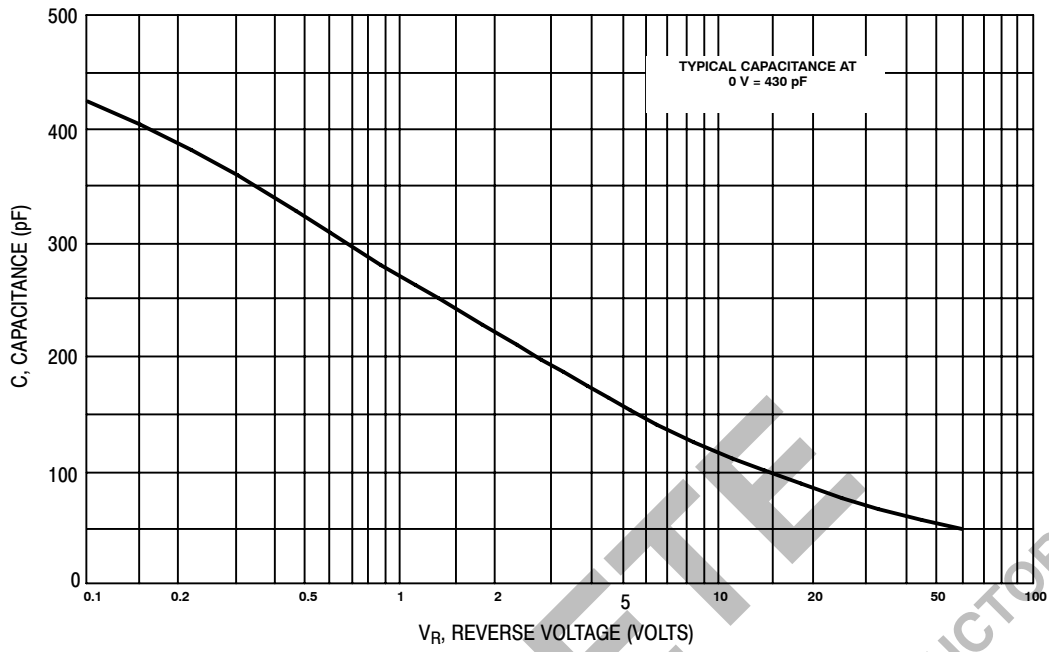


Figure 5. Typical Capacitance

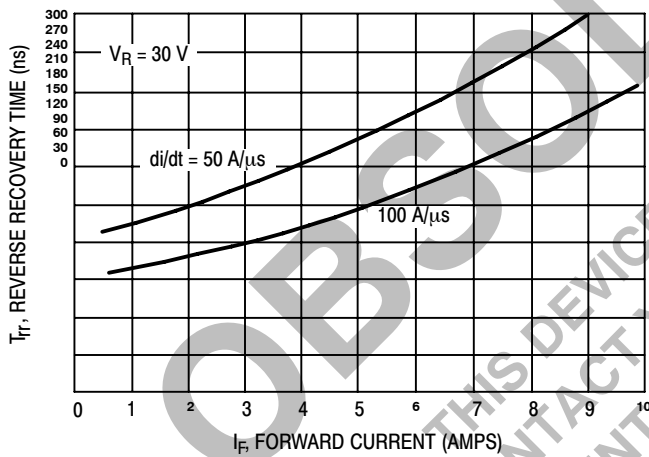


Figure 6. Typical Reverse Recovery Time

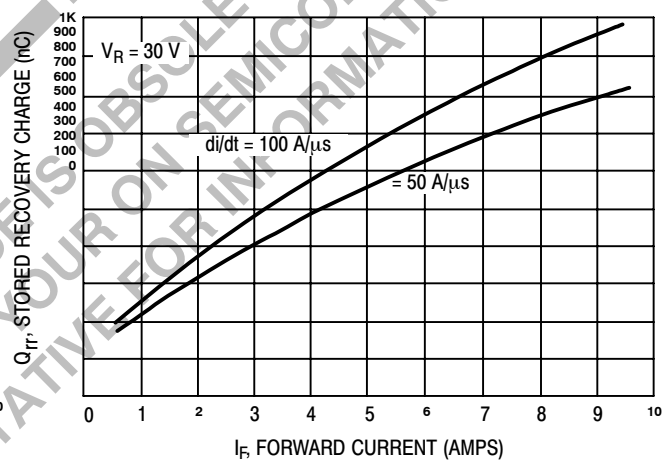
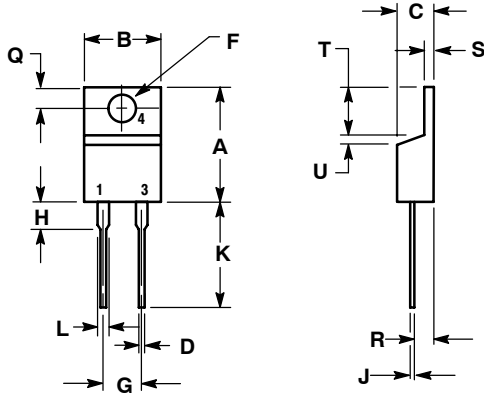


Figure 7. Typical Stored Recovery Charge

# MUR10150E

## 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

OBSOLETE

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**MUR10150E/D**