**Preferred Device** 

# **SCANSWITCH**<sup>™</sup> **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:**

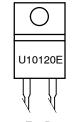
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: U10120E

### MAXIMUM RATINGS

• Case: Epoxy, Molded				
• Weight: 1.9 grams (approximatel)	y)			30 🕨
• Finish: All External Surfaces Cor	rosion Res	istant and Ter	minal	
Leads are Readily Solderable				0×.0 . P.
• Lead Temperature for Soldering	Purposes:			OBSERNICE NAME
260°C Max. for 10 Seconds				
• Shipped 50 units per plastic tube			6	
• Marking: U10120E				
MAXIMUM RATINGS				
	Symbol	Value	Unit	
Rating			Unit	' <i>W</i> 3
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage	V <sub>RRM</sub> V <sub>RWM</sub>	1200	V	TO-22
DC Blocking Voltage	VR			CASE 2
Average Rectified Forward Current	I <sub>F(AV)</sub>	10	A	STYL
(Rated V <sub>R</sub> , T <sub>C</sub> = 125°C)				
Peak Repetitive Forward Current	I <sub>FRM</sub>	20	А	MARKING I
(Rated V <sub>R</sub> , Square Wave, 20 kHz, T <sub>C</sub> = 125°C) Per Leg				
	5.0	100	•	
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load	IFSM	100	A	
Conditions Halfwave, Single				U1012
Phase, 60 Hz)				
Operating Junction	TJ	-65 to +125	°C	۲ ۲
Temperature Range				U10120E = I
Controlled Avalanche Energy	WAVAL	20	mJ	

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.



## **ON Semiconductor™**

http://onsemi.com

**SCANSWITCH** 

RECTIFIER

**10 AMPERES** 

1200 VOLTS

#### THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance — Junction to Case	$R_{ extsf{ heta}JC}$	2.0	°C/W

#### **ELECTRICAL CHARACTERISTICS**

Characteristic		Тур	Max	Unit
Maximum Instantaneous Forward Voltage (Note 1.)	٧F			Volts
(i <sub>F</sub> = 6.5 Amps, T <sub>J</sub> = 125°C)		1.7	2.0	
(i <sub>F</sub> = 6.5 Amps, T <sub>J</sub> = 25°C)		1.9	2.2	
Maximum Instantaneous Reverse Current (Note 1.)	i <sub>R</sub>			μA
(Rated dc Voltage, $T_J = 25^{\circ}C$ )		25	100	
(Rated dc Voltage, T <sub>J</sub> = 125°C)		750	1000	
Maximum Reverse Recovery Time	t <sub>rr</sub>	150	175	ns
(I <sub>F</sub> = 1.0 A, di/dt = 50 Amps/µs)				
Maximum Forward Recovery Time	t <sub>fr</sub>	135	175	ns
$I_F$ = 6.5 Amps, di/dt = 12 Amps/µs (As Measured on a Deflection Circuit)			•	
Peak Transient Overshoot Voltage	V <sub>RFM</sub>	12	14	Volts

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

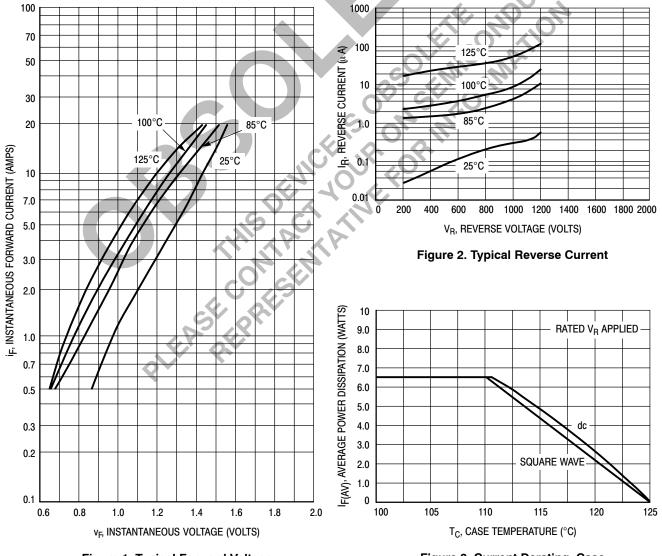
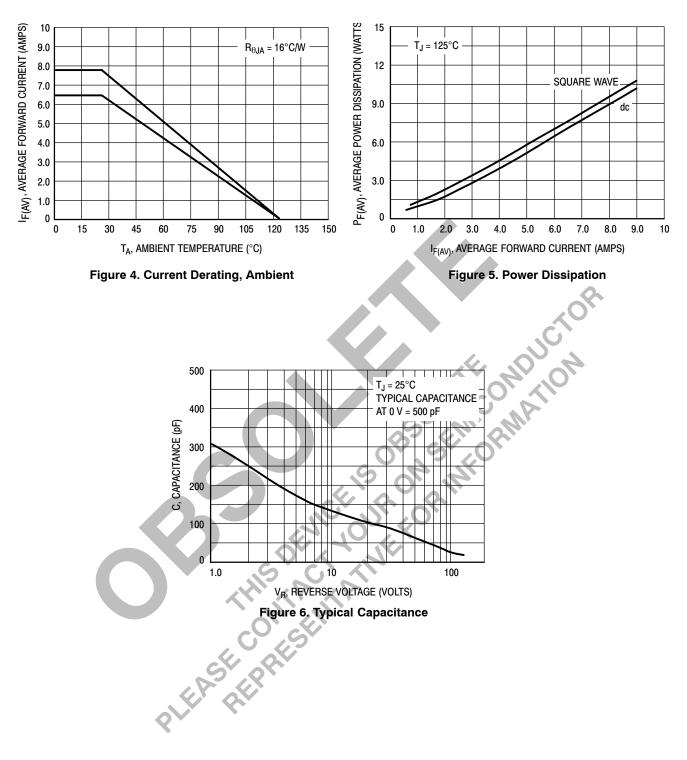


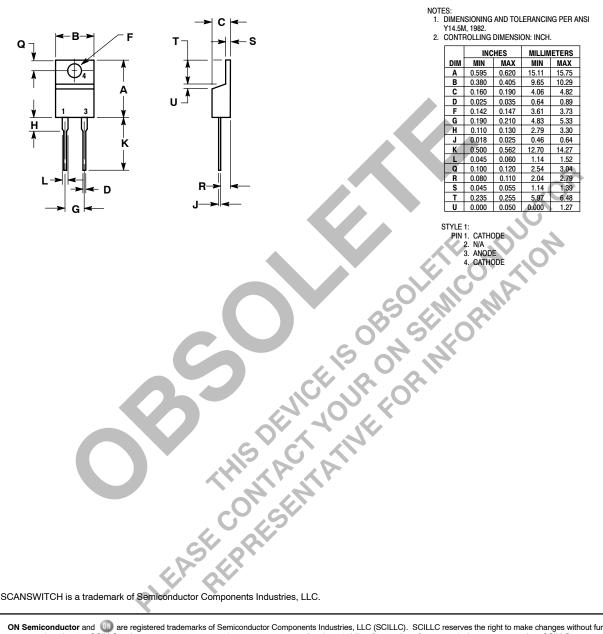
Figure 1. Typical Forward Voltage

Figure 3. Current Derating, Case



#### PACKAGE DIMENSIONS

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



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