

Vishay General Semiconductor

# **Ultrafast Plastic Rectifier**



## FEATURES

- Glass passivated chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low leakage current
- · Low switching losses, high efficiency
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

### **TYPICAL APPLICATIONS**

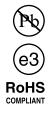
For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

## **MECHANICAL DATA**

**Case:** DO-204AC (DO-15) Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS compliant, commercial grade

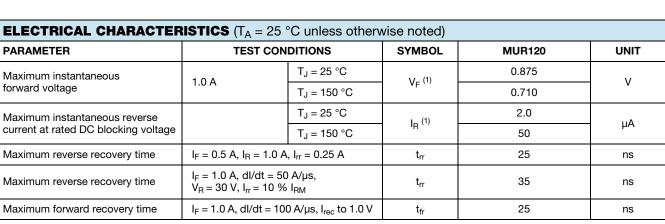
**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102 E3 suffix meets JESD 201 class 1A whisker test **Polarity:** Color band denotes cathode end

<b>MAXIMUM RATINGS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MUR120	UNIT			
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	V			
Working peak reverse voltage	V <sub>RWM</sub>	200	V			
Maximum DC blocking voltage	V <sub>DC</sub>	200	V			
Maximum average forward rectified current at $T_A$ = 130 °C	I <sub>F(AV)</sub>	1.0	А			
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	35 A				
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 175 °C				



# PRIMARY CHARACTERISTICS I<sub>F(AV)</sub> 1.0 A V<sub>RRM</sub> 200 V I<sub>FSM</sub> 35 A t<sub>rr</sub> 25 ns V<sub>F</sub> 0.710 V T<sub>J</sub> max. 175 °C

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#### Note

 $^{(1)}\,$  Pulse test:  $t_p$  = 300  $\mu s$  pulse, duty cycle  $\leq 2\,$  %

<b>THERMAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MUR120	UNIT		
Typical thermal resistance junction to ambient	$R_{\theta JA}$ <sup>(1)</sup>	27	°C/W		

#### Note

<sup>(1)</sup> Lead length = 3/8" on P.C.B. with 1.5" x 1.5" (38.1 mm x 38.1 mm) copper surface

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
MUR120-E3/54	0.41	54	4000	13" diameter paper tape and reel		
MUR120-E3/73	0.41	73	2000	Ammo pack packaging		

## **RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub> = 25 °C unless otherwise noted)

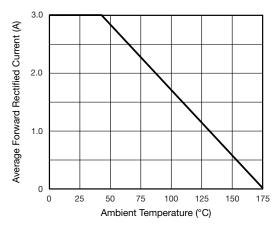


Fig. 1 - Forward Current Derating Curve

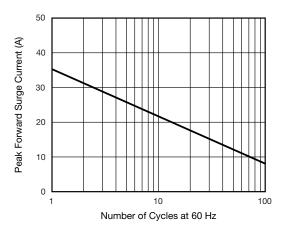


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



# **MUR120**

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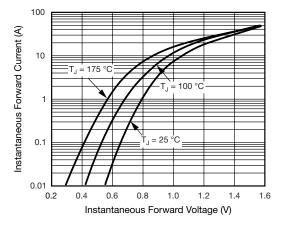


Fig. 3 - Typical Instantaneous Forward Characteristics

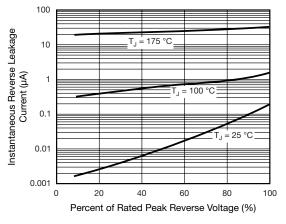
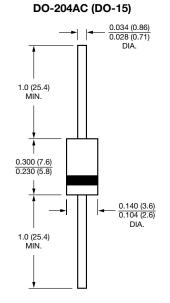


Fig. 4 - Typical Reverse Leakage Characteristics

## **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)



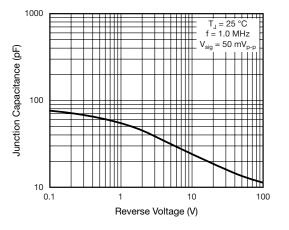


Fig. 5 - Typical Junction Capacitance



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