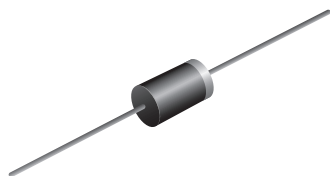


## Ultrafast Plastic Rectifier



DO-201AD

### FEATURES

- Glass passivated pellet 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
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### 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-201AD

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	4.0 A
$V_{RRM}$	400 V, 600 V
$I_{FSM}$	150 A
$t_{rr}$	50 ns
$V_F$ at $I_F$	1.05 V
$T_J$ max.	175 °C
Package	DO-201AD
Diode variations	Single die

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MUR440	MUR460	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	400	600	V
Working peak reverse voltage	V <sub>RWM</sub>	400	600	
Maximum DC blocking voltage	V <sub>DC</sub>	400	600	
Maximum average forward rectified current (fig. 1)	I <sub>F(AV)</sub>	4.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150		
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175		°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MUR440	MUR460	UNIT
Maximum instantaneous forward voltage	3.0 A	T <sub>J</sub> = 150 °C	V <sub>F</sub> <sup>(1)</sup>	1.05	V	
		T <sub>J</sub> = 25 °C		1.25		
	4.0 A	T <sub>J</sub> = 25 °C		1.28		
Maximum instantaneous reverse current at rated DC blocking voltage		T <sub>J</sub> = 25 °C	I <sub>R</sub> <sup>(1)</sup>	10	μA	
		T <sub>J</sub> = 150 °C		250		
Max. reverse recovery time	I <sub>F</sub> = 0.5, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	50	ns	
Maximum reverse recovery time	I <sub>F</sub> = 1.0 A, dI/dt = 50 A/μs, V <sub>R</sub> = 30 V, I <sub>rr</sub> = 10 % I <sub>RM</sub>		t <sub>rr</sub>	75		
Maximum forward recovery time	I <sub>F</sub> = 1.0 A, dI/dt = 100 A/μs, recovery to 1.0 V		t <sub>fr</sub>	50		

#### Note

<sup>(1)</sup> Pulse test:  $t_p = 300\text{ μs}$ , duty cycle  $\leq 2\%$


**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	MUR440	MUR460	UNIT
Typical thermal resistance junction to ambient	$R_{\theta JA}^{(1)}$	28		$^{\circ}\text{C/W}$

**Note**

(1) Lead length = 1/2" on PCB with 1.5" x 1.5" copper surface

**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MUR460-E3/54	1.138	54	1400	13" diameter paper tape and reel
MUR460-E3/73	1.138	73	1000	Ammo pack packaging

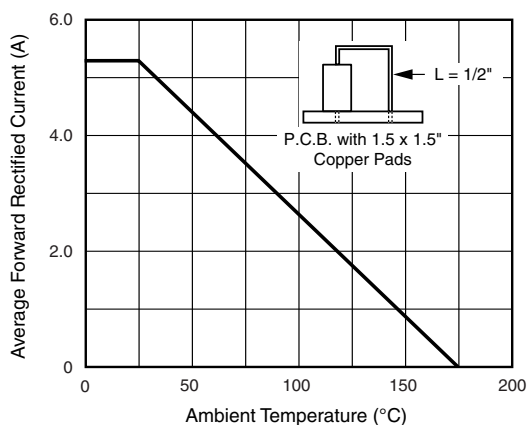
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

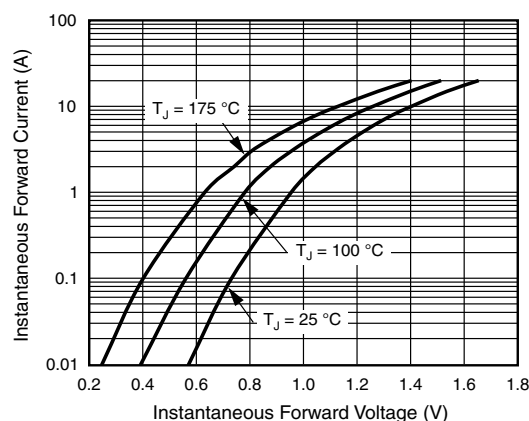


Fig. 3 - Typical Instantaneous Forward Characteristics

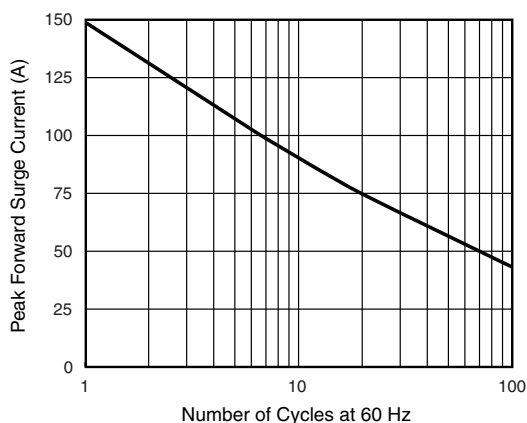


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

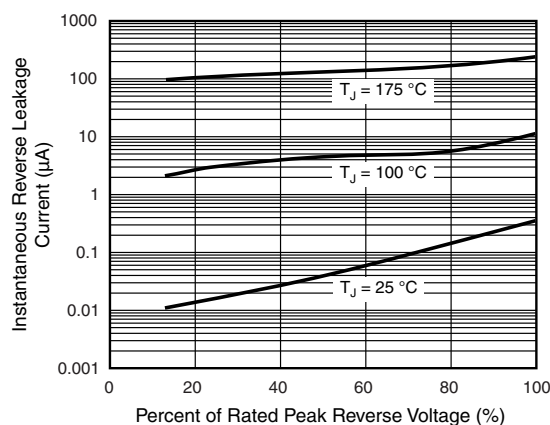


Fig. 4 - Typical Reverse Characteristics

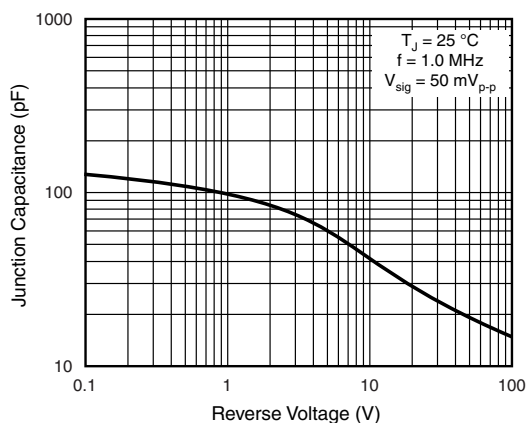
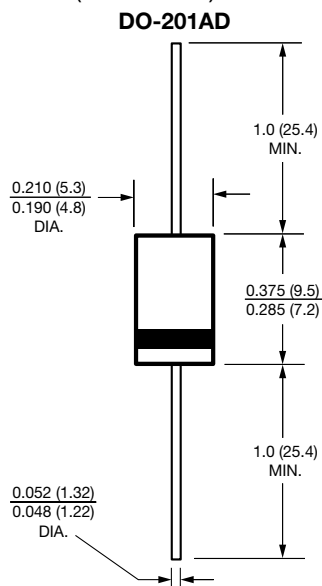


Fig. 5 - Typical Junction Capacitance per Leg

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





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