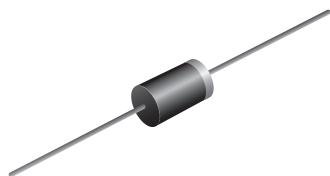


## Ultrafast Plastic Rectifier


**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  
HALOGEN  
**FREE**

### 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  
Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 and M3 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
Circuit configuration	Single

### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

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 ( $T_A = 25$ °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	MUR440	MUR460	UNIT
Maximum instantaneous forward voltage	3.0 A	$T_J = 150$ °C	$V_F^{(1)}$	1.05	V	
		$T_J = 25$ °C		1.25		
	4.0 A	$T_J = 25$ °C		1.28		
Maximum instantaneous reverse current at rated DC blocking voltage		$T_J = 25$ °C	$I_R^{(1)}$	10	μA	
		$T_J = 150$ °C		250		
Max. reverse recovery time	$I_F = 0.5$ , $I_R = 1.0$ A, $I_{rr} = 0.25$ A		$t_{rr}$	50	ns	
Maximum reverse recovery time	$I_F = 1.0$ A, $di/dt = 50$ A/μs, $V_R = 30$ V, $I_{rr} = 10$ % $I_{RM}$		$t_{rr}$	75		
Maximum forward recovery time	$I_F = 1.0$ A, $di/dt = 100$ A/μs, recovery to 1.0 V		$t_{fr}$	50		

#### Note

<sup>(1)</sup> Pulse test:  $t_p = 300$  μs, duty cycle ≤ 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**

<sup>(1)</sup> 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
MUR460-M3/54	1.138	54	1400	13" diameter paper tape and reel
MUR460-M3/73	1.138	73	1000	Ammo pack packaging

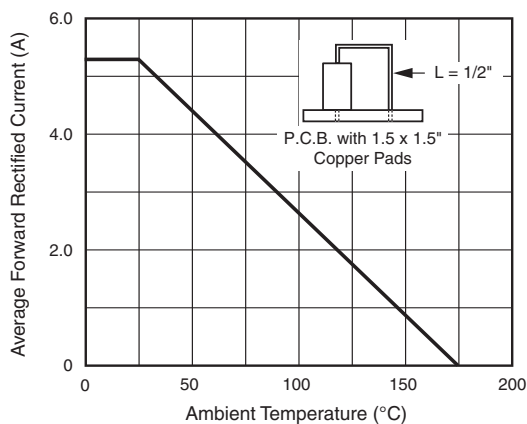
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

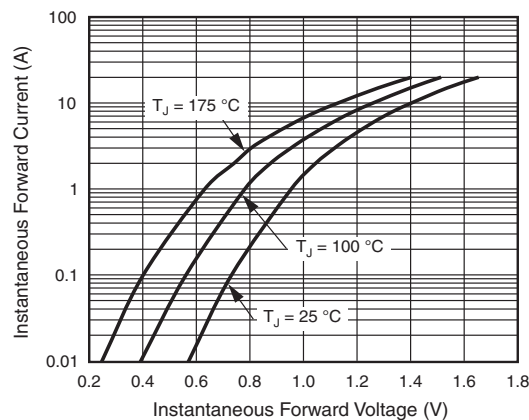


Fig. 3 - Typical Instantaneous Forward Characteristics

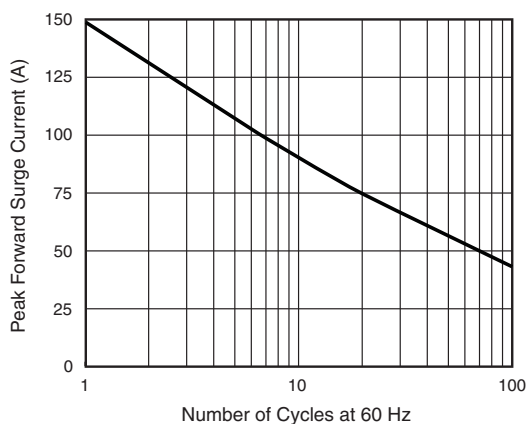


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

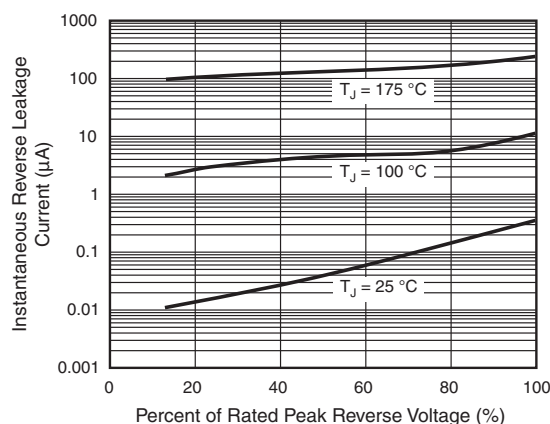


Fig. 4 - Typical Reverse Characteristics

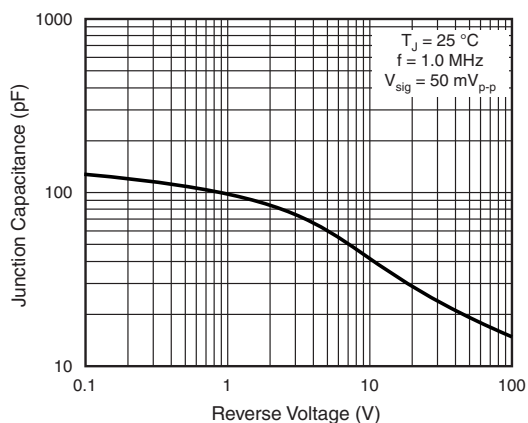
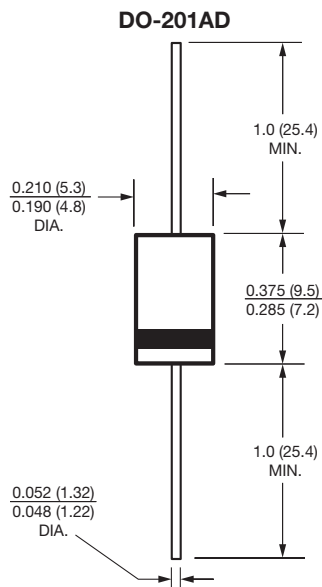


Fig. 5 - Typical Junction Capacitance per Leg

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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