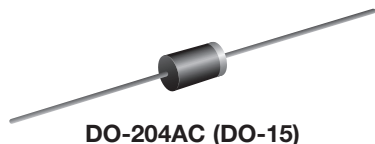


## Ultrafast Plastic Rectifier



DO-204AC (DO-15)

### 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


**RoHS**  
COMPLIANT

### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	1.0 A
$V_{RRM}$	400 V, 600 V
$I_{FSM}$	35 A
$t_{rr}$	50 ns
$V_F$	1.05 V
$T_J \text{ max.}$	175 °C

### 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

### MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)

PARAMETER	SYMBOL	MUR140	MUR160	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	600	V
Working peak reverse voltage	$V_{RWM}$	400	600	V
Maximum DC blocking voltage	$V_{DC}$	400	600	V
Maximum average forward rectified current at $T_A = 120\text{ °C}$	$I_{F(AV)}$	1.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	35		A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175		°C

# MUR140, MUR160

Vishay General Semiconductor



ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	MUR140	MUR160	UNIT
Maximum instantaneous forward voltage	$I_F = 1.0\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	$V_F^{(1)}$	1.25		V
		$T_J = 150\text{ }^\circ\text{C}$		1.05		
Maximum instantaneous reverse current at rated DC blocking voltage			$I_R^{(1)}$	5.0		$\mu\text{A}$
				150		
Maximum reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$		$t_{rr}$	50		ns
Maximum reverse recovery time	$I_F = 1.0\text{ A}, dI/dt = 50\text{ A}/\mu\text{s}, V_R = 30\text{ V}, I_{rr} = 10\% I_{RM}$		$t_{rr}$	75		ns
Maximum forward recovery time	$I_F = 1.0\text{ A}, dI/dt = 100\text{ A}/\mu\text{s},$ recovery to 1.0 V		$t_{fr}$	50		ns

**Note**

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

THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MUR140	MUR160	UNIT
Typical thermal resistance, junction to ambient	$R_{\theta JA}^{(1)}$	50		$^\circ\text{C}/\text{W}$

**Note**

(1) 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
MUR160-E3/54	0.41	54	4000	13" diameter paper tape and reel
MUR160-E3/73	0.41	73	2000	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES

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

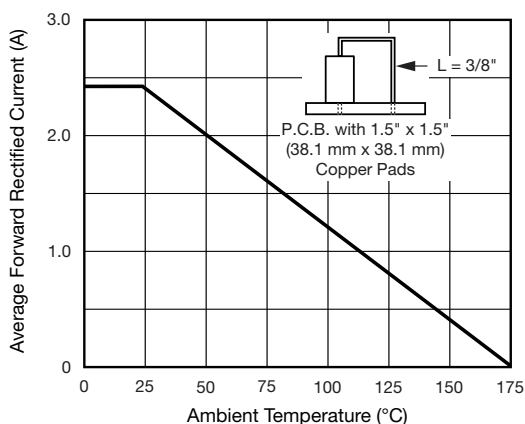


Fig. 1 - Forward Current Derating Curve

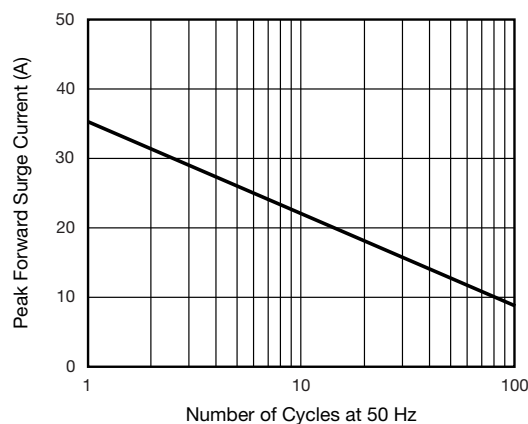


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

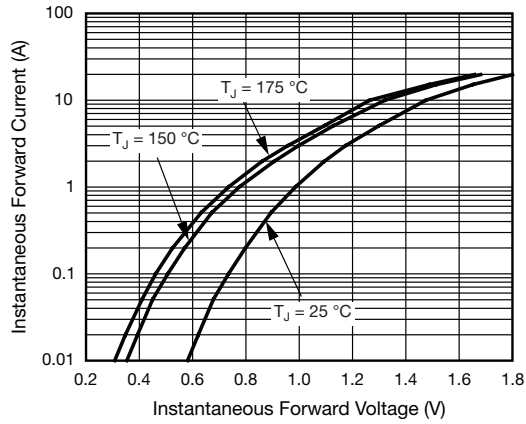


Fig. 3 - Typical Instantaneous Forward Characteristics

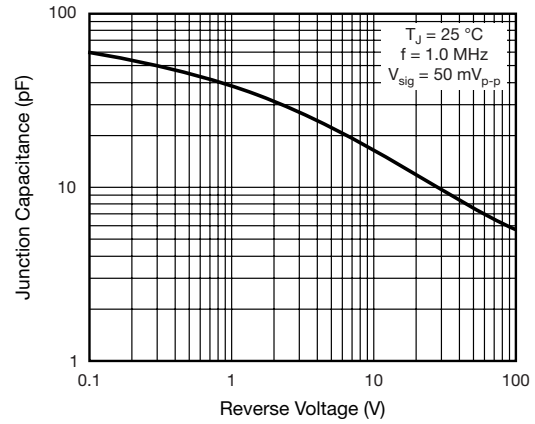


Fig. 5 - Typical Junction Capacitance

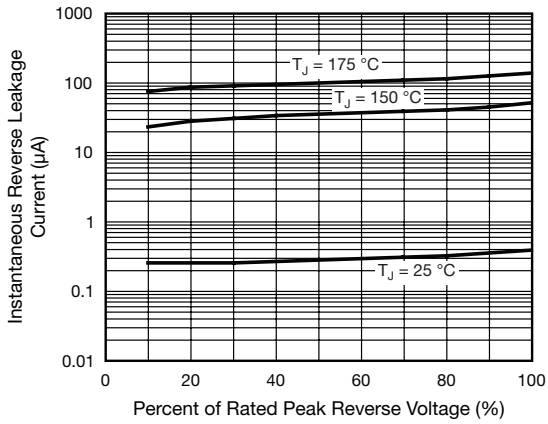
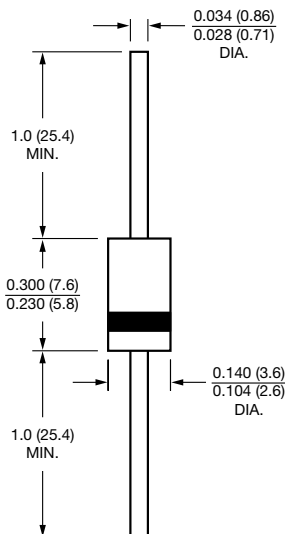


Fig. 4 - Typical Reverse Leakage Characteristics

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

**DO-204AC (DO-15)**





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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**