

MUR140, MUR160

Vishay General Semiconductor

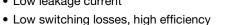
Ultrafast Plastic Rectifier



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 max.	175 °C				

FEATURES

- Glass passivated chip junction
- · Ultrafast reverse recovery time
- · Low forward voltage drop
- Low leakage current



- · 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

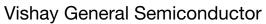
Polarity: Color band denotes cathode end

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MUR140	MUR160	UNIT		
Maximum repetitive peak reverse voltage	V _{RRM}	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 $T_A = 120$ °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		



COMPLIANT

MUR140, MUR160





ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	MUR140	MUR160	UNIT	
Maximum instantaneous forward voltage	1 - 1 0 4	T _J = 25 °C	V _F ⁽¹⁾	V (1)	1.25	V	
	I _F = 1.0 A	T _J = 150 °C		1.05		V	
Maximum instantaneous		T _J = 25 °C	– I _R ⁽¹⁾ –	L (1)	5.	.0	
reverse current at rated DC blocking voltage		T _J = 150 °C		15	50	- μΑ	
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	$I_F = 1.0 \text{ A}, \text{ dl/dt} = 50 \text{ A/}\mu\text{s}, V_R = 30 \text{ V}, I_{rr} = 10 \% I_{RM}$		t _{rr}	75		ns	
Maximum forward recovery time	I_F = 1.0 A, dI/dt = 100 A/µs, recovery to 1.0 V		t _{fr}	5	0	ns	

Note

⁽¹⁾ Pulse test: 300 μ s pulse width, duty cycle \leq 2 %

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

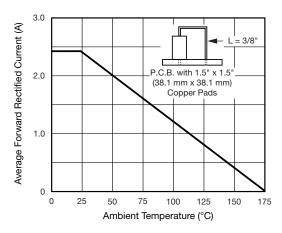


Fig. 1 - Forward Current Derating Curve

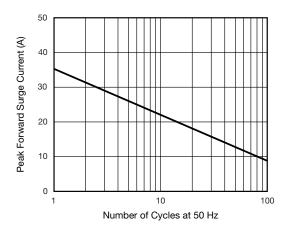


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



New Product

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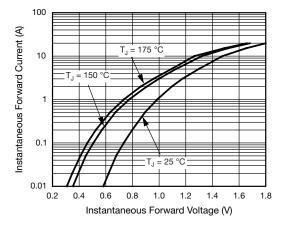


Fig. 3 - Typical Instantaneous Forward Characteristics

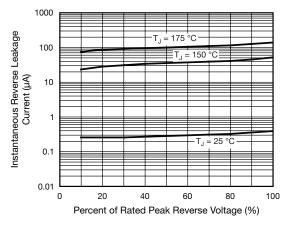
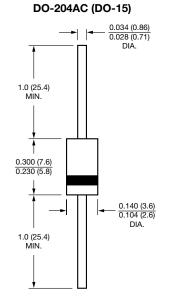


Fig. 4 - Typical Reverse Leakage Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



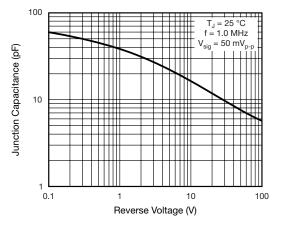


Fig. 5 - Typical Junction Capacitance



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