



# THE DATASHEET OF MURS360-E3/57T





## Surface-Mount Ultrafast Plastic Rectifier



SMC (DO-214AB)



### LINKS TO ADDITIONAL RESOURCES



### FEATURES

- Glass passivated pellet chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
  - Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	400 V, 600 V
$I_{FSM}$	125 A
$t_{rr}$	50 ns
$V_F$	1.05 V
$T_J$ max.	175 °C
Package	SMC (DO-214AB)
Circuit configuration	Single

### MECHANICAL DATA

**Case:** SMC (DO-214AB)  
 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, commercial grade  
 Base P/NHE3\_X - RoHS-compliant and AEC-Q101 qualified  
 Base P/NHM3\_X - halogen-free, RoHS-compliant, and AEC-Q101 qualified  
 (“\_X” denotes revision code e.g. A, B, .....)  
**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102  
 E3 suffix meets JESD 201 class 2 whisker test, HE3 suffix meets JESD 201 class 2 whisker test  
**Polarity:** color band denotes cathode end

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MURS340	MURS360	UNIT
Device marking code		MG	MJ	
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: (fig. 1)	$I_{F(AV)}$	$T_L = 130\text{ °C}$		A
		$T_L = 115\text{ °C}$		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	125		A
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175		°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	MURS340	MURS360	UNIT
Maximum instantaneous forward voltage	$I_F = 3.0\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	1.25		V
	$I_F = 4.0\text{ A}$		1.28		
	$I_F = 3.0\text{ A}$	$T_J = 150\text{ }^\circ\text{C}$	1.05		
Maximum instantaneous reverse current at rated DC blocking voltage		$T_J = 25\text{ }^\circ\text{C}$	10		$\mu\text{A}$
		$T_J = 150\text{ }^\circ\text{C}$	250		
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	$t_{fr}$	25		ns

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

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MURS340	MURS360	UNIT
Typical thermal resistance junction to lead	$R_{\theta JL}$	11		$^\circ\text{C}/\text{W}$

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MURS360-E3/57T	0.211	57T	850	7" diameter plastic tape and reel
MURS360-E3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel
MURS360HE3_A/H (1)	0.211	H	850	7" diameter plastic tape and reel
MURS360HE3_A/I (1)	0.211	I	3500	13" diameter plastic tape and reel
MURS360-M3/57T	0.211	57T	850	7" diameter plastic tape and reel
MURS360-M3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel
MURS360HM3_A/H (1)	0.211	H	850	7" diameter plastic tape and reel
MURS360HM3_A/I (1)	0.211	I	3500	13" diameter plastic tape and reel

**Note**

(1) AEC-Q101 qualified



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

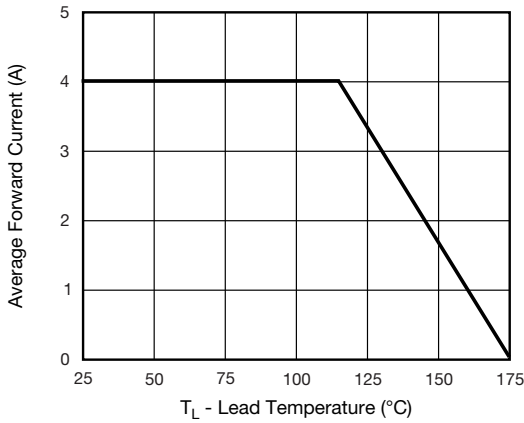


Fig. 1 - Forward Current Derating Curve

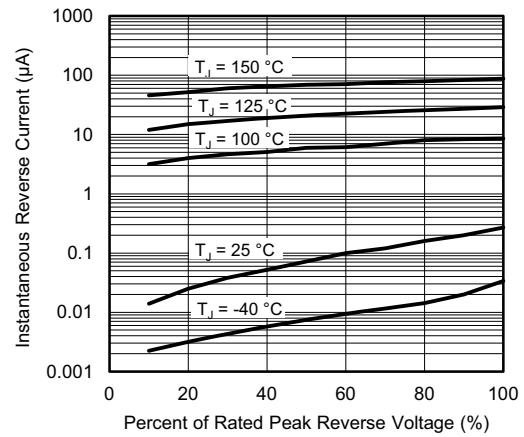


Fig. 4 - Typical Reverse Characteristics

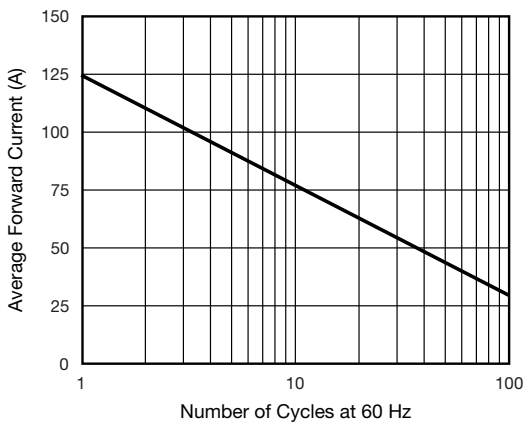


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

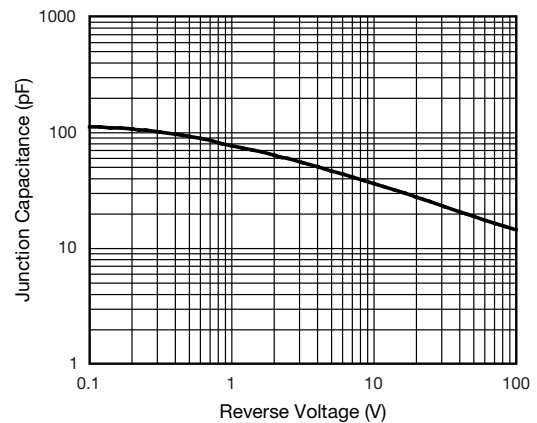


Fig. 5 - Typical Junction Capacitance

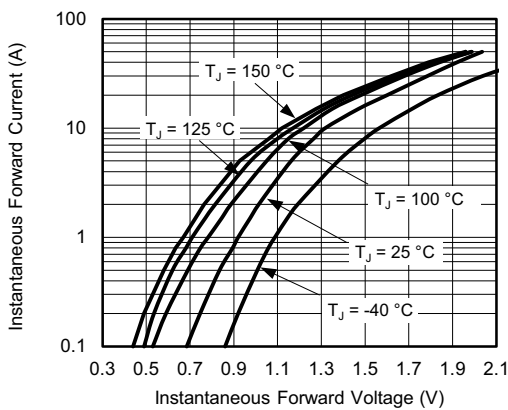


Fig. 3 - Typical Instantaneous Forward Characteristics

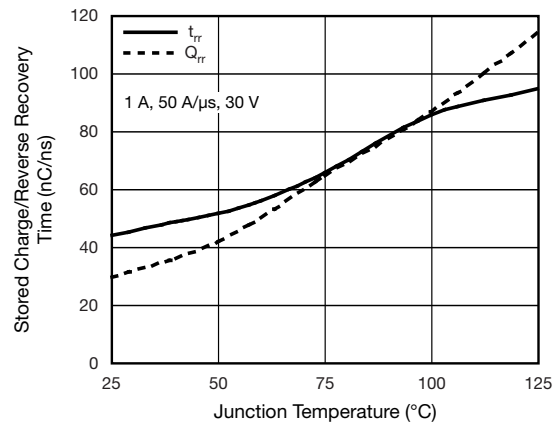
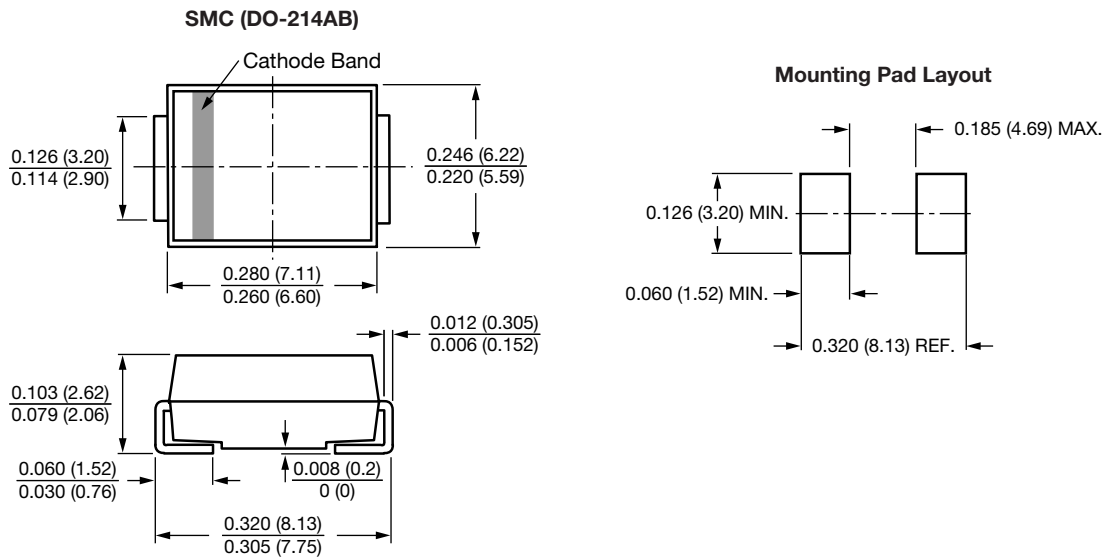


Fig. 6 - Typical Reverse Switching Characteristics



## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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