

## 3A, 50V - 600V Ultra Fast Surface Mount Rectifier

### FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Ultra Fast recovery time for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- High frequency rectification
- Freewheeling application
- Switching mode converters and inverters in computer, and telecommunication

### MECHANICAL DATA

- Case: DO-214AB (SMC)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.210g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	3	A
$V_{RRM}$	50 - 600	V
$I_{FSM}$	75	A
$T_{JMAX}$	175	°C
Package	DO-214AB (SMC)	
Configuration	Single die	



DO-214AB (SMC)



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	MUR 305S	MUR 310S	MUR 315S	MUR 320S	MUR 340S	MUR 360S	UNIT
Marking code on the device		MUR 305S	MUR 310S	MUR 315S	MUR 320S	MUR 340S	MUR 360S	
Repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	105	140	280	420	V
Forward current	$I_F$	3						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	75						A
Junction temperature	$T_J$	- 55 to +175						°C
Storage temperature	$T_{STG}$	- 55 to +175						°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	11	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage <sup>(1)</sup>	MUR305S MUR310S MUR315S MUR320S	$I_F = 3\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.875	V
	MUR340S MUR360S			-	1.250	V
	MUR305S MUR310S MUR315S MUR320S	$I_F = 3\text{A}, T_J = 150^\circ\text{C}$	$V_F$	-	0.710	V
	MUR340S MUR360S			-	1.050	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	MUR305S MUR310S MUR315S MUR320S	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	MUR340S MUR360S			-	10	$\mu\text{A}$
	MUR305S MUR310S MUR315S MUR320S	$T_J = 150^\circ\text{C}$	$I_R$	-	150	$\mu\text{A}$
	MUR340S MUR360S			-	250	$\mu\text{A}$
Reverse recovery time	MUR305S MUR310S MUR315S MUR320S	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{rr} = 0.25\text{A}$	$t_{rr}$	-	25	ns
	MUR340S MUR360S			-	50	ns

**Notes:**

1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
MUR3xS	DO-214AB (SMC)	3,000 / Tape & Reel

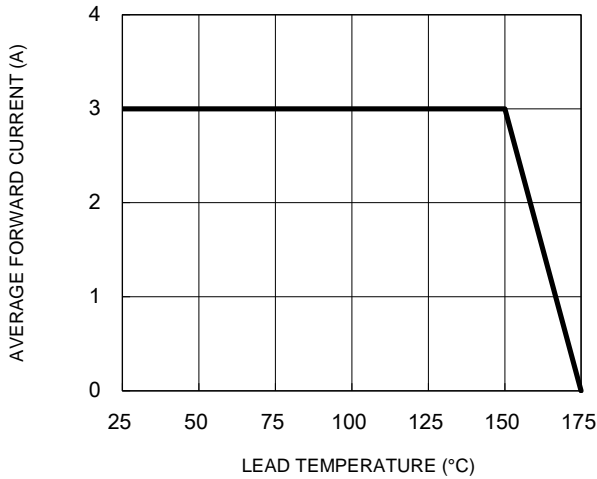
**Notes:**

1. "x" defines voltage from 50V(MUR305S) to 600V(MUR360S)

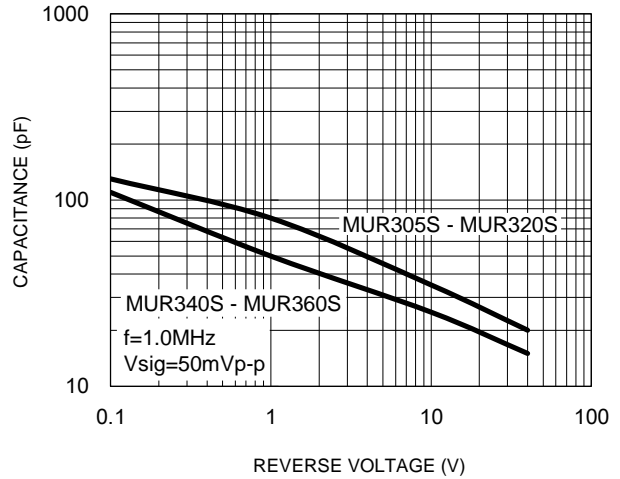
**CHARACTERISTICS CURVES**

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

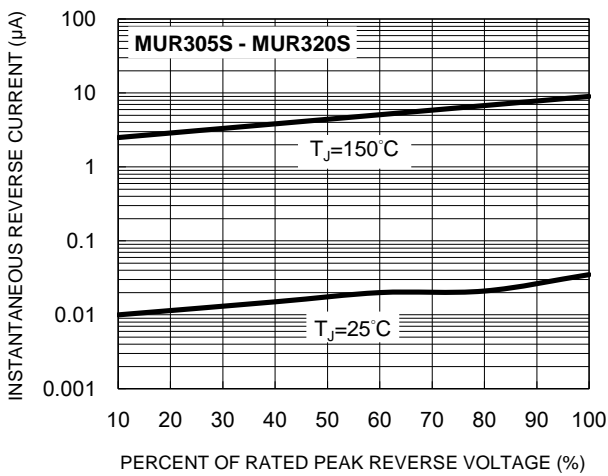
**Fig.1 Forward Current Derating Curve**



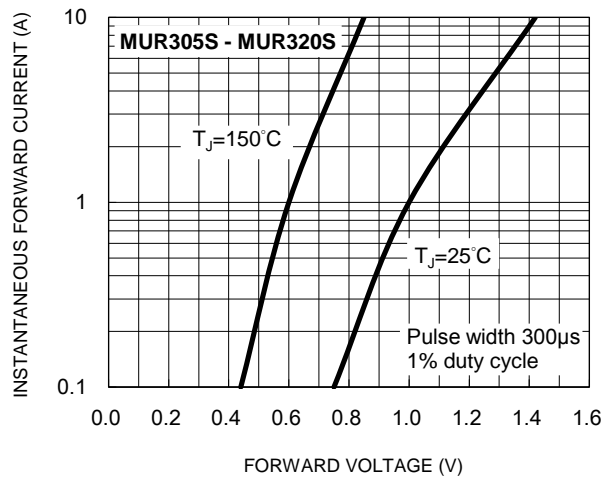
**Fig.2 Typical Junction Capacitance**



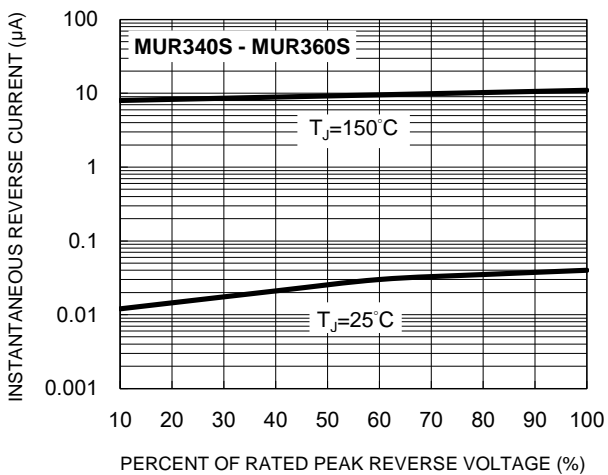
**Fig.3 Typical Reverse Characteristics**



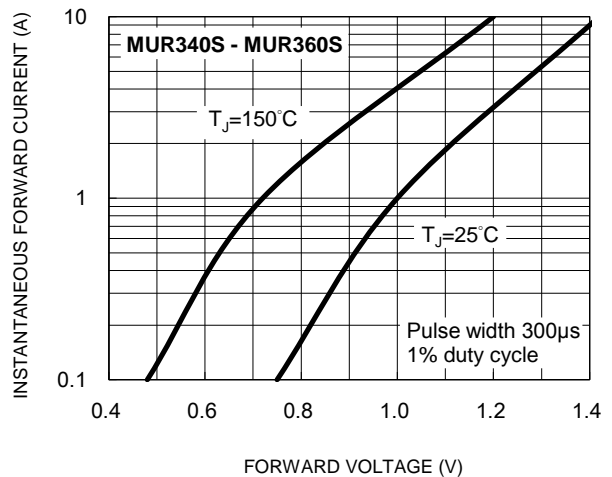
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Reverse Characteristics**



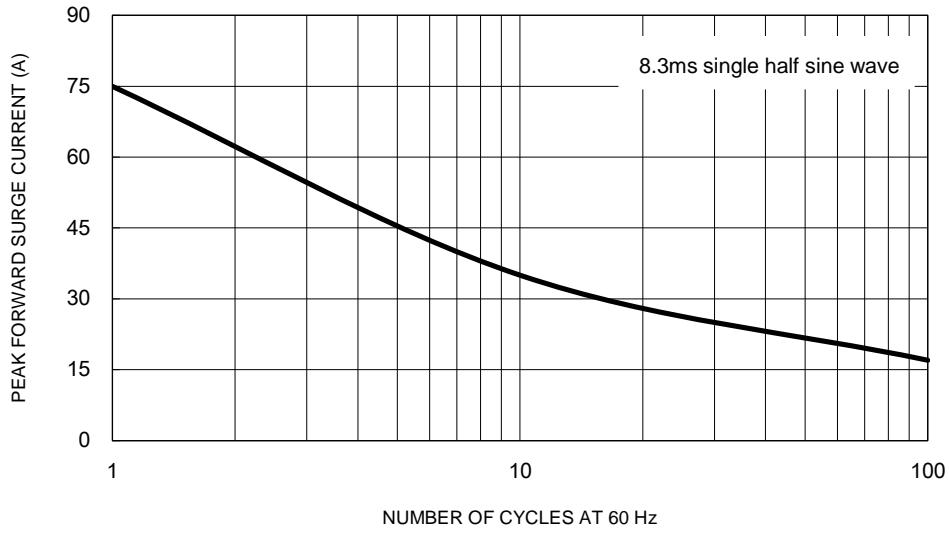
**Fig.6 Typical Forward Characteristics**



**CHARACTERISTICS CURVES**

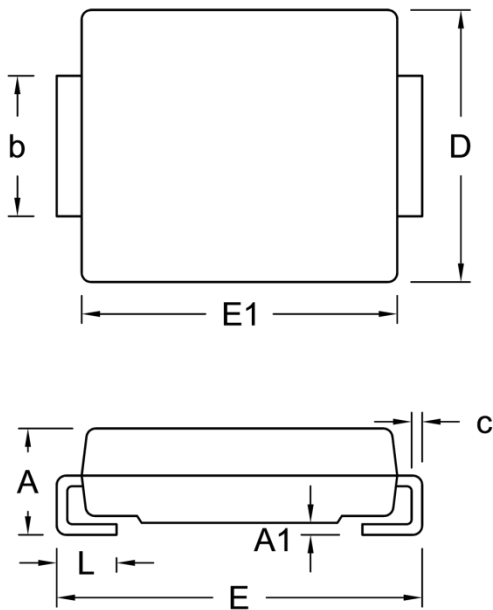
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig.7 Maximum Non-Repetitive Forward Surge Current**



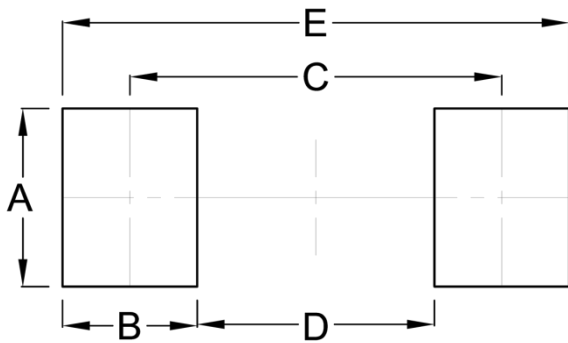
**PACKAGE OUTLINE DIMENSIONS**

DO-214AB (SMC)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.10	0.20	0.004	0.008
b	2.90	3.20	0.114	0.126
c	0.15	0.31	0.006	0.012
D	5.59	6.22	0.220	0.245
E	7.75	8.13	0.305	0.320
E1	6.60	7.11	0.260	0.280
L	1.00	1.60	0.039	0.063

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.90	0.272
D	4.40	0.173
E	9.40	0.370

**MARKING DIAGRAM**



- P/N = Marking Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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