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
$T_{J\ MAX}$	175	°C
Package	DO-214AB (SMC)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE



DO-214AB (SMC)



ABSOLUTE MAXIMUM RATINGS (T_A = 25°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

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	11	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	MUR305S MUR310S MUR315S MUR320S	I_F = 3A, T_J = 25°C	V_F	-	0.875	V
	MUR340S MUR360S			-	1.250	V
	MUR305S MUR310S MUR315S MUR320S	I_F = 3A, T_J = 150°C	V_F	-	0.710	V
	MUR340S MUR360S			-	1.050	V
Reverse current @ rated V_R[2]	MUR305S MUR310S MUR315S MUR320S	T_J = 25°C	I_R	-	5	μA
	MUR340S MUR360S			-	10	μA
	MUR305S MUR310S MUR315S MUR320S	T_J = 150°C	I_R	-	150	μA
	MUR340S MUR360S			-	250	μA
Reverse recovery time	MUR305S MUR310S MUR315S MUR320S	I_F = 0.5A, I_R = 1.0A I_{rr} = 0.25A	t_{rr}	-	25	ns
	MUR340S MUR360S			-	50	ns

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
MUR3xS	DO-214AB (SMC)	3,000 / Tape & Reel

Notes:

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

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

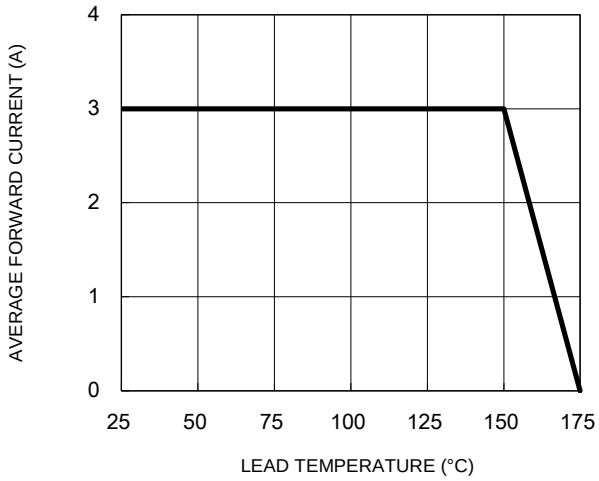


Fig.2 Typical Junction Capacitance

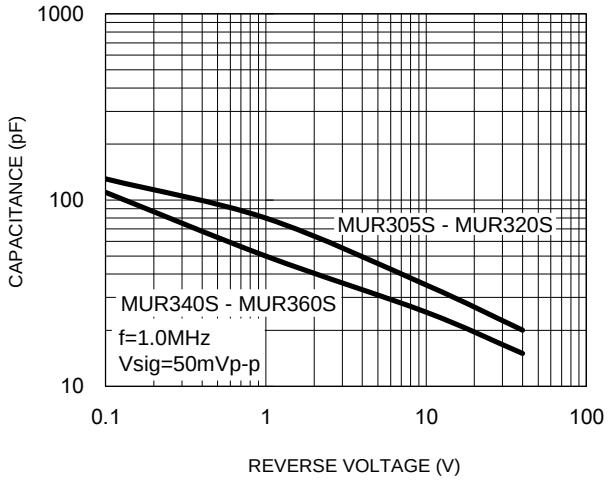


Fig.3 Typical Reverse Characteristics

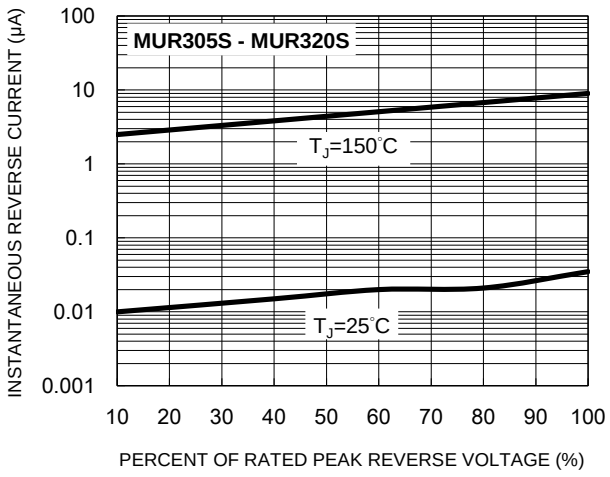


Fig.4 Typical Forward Characteristics

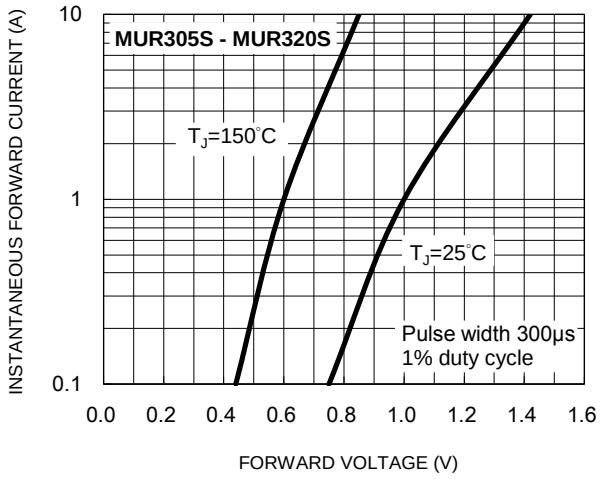


Fig.5 Typical Reverse Characteristics

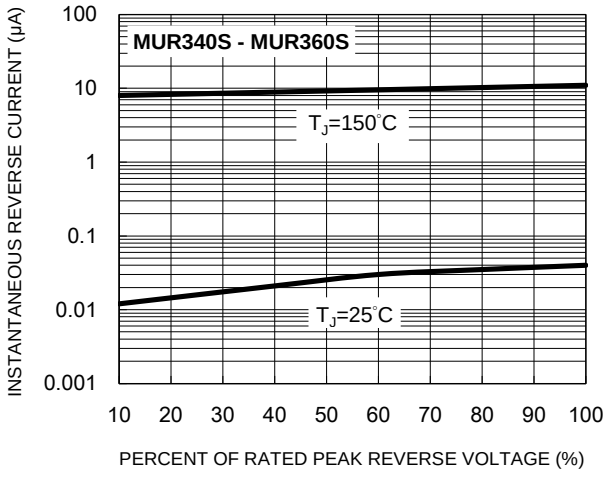
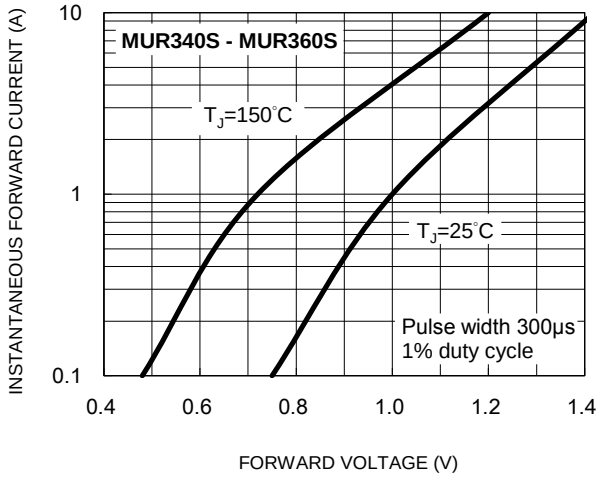


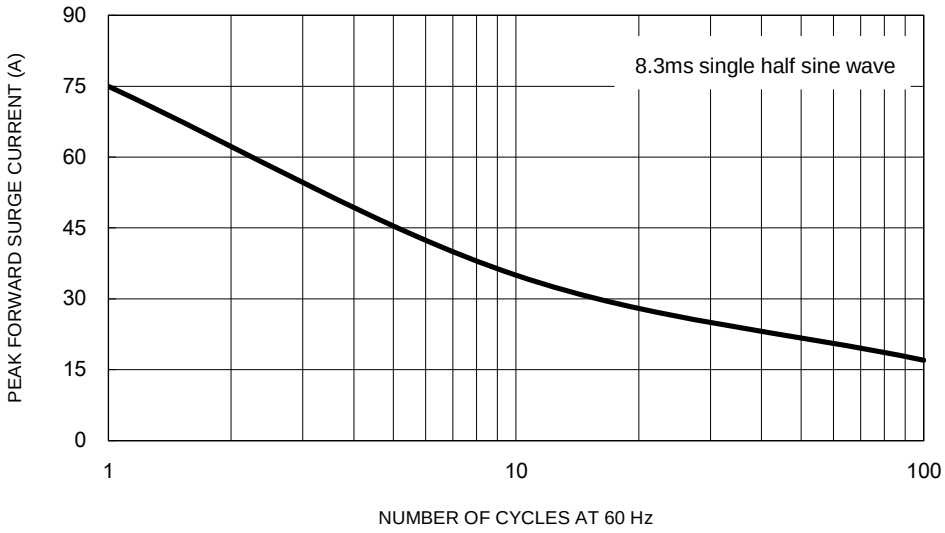
Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

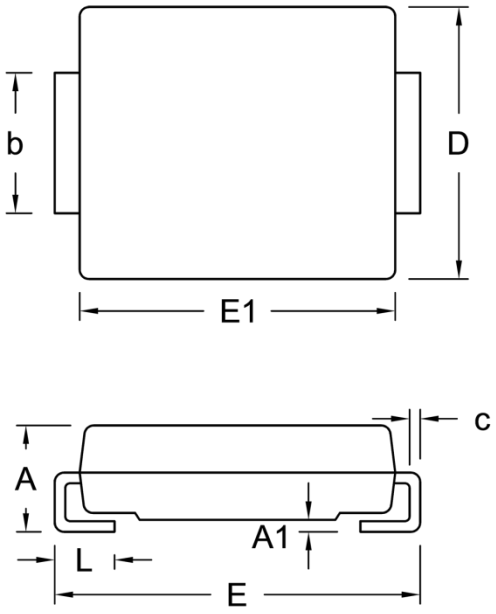
(T_A = 25°C unless otherwise noted)

Fig.7 Maximum Non-Repetitive Forward Surge Current



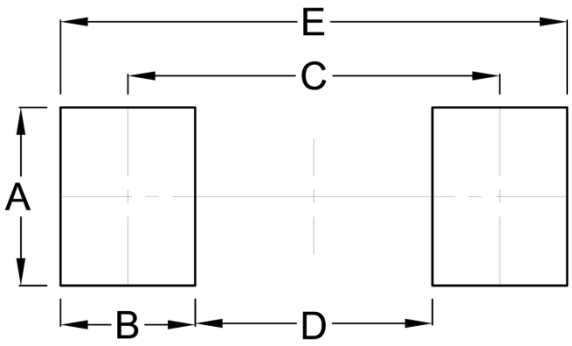
PACKAGE OUTLINE DIMENSIONS

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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