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

FEATURES

- AEC-Q101 qualified
- 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

- DC to DC converter
- Automotive application
- Car lighting
- Snubber
- Freewheeling application

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 305SH	MUR 310SH	MUR 315SH	MUR 320SH	MUR 340SH	MUR 360SH	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]	MUR305SH MUR310SH MUR315SH MUR320SH	I_F = 3A, T_J = 25°C	V_F	-	0.875	V
	MUR340SH MUR360SH			-	1.250	V
	MUR305SH MUR310SH MUR315SH MUR320SH	I_F = 3A, T_J = 150°C	V_F	-	0.710	V
	MUR340SH MUR360SH			-	1.050	V
Reverse current @ rated V_R[2]	MUR305SH MUR310SH MUR315SH MUR320SH	T_J = 25°C	I_R	-	5	μA
	MUR340SH MUR360SH			-	10	μA
	MUR305SH MUR310SH MUR315SH MUR320SH	T_J = 150°C	I_R	-	150	μA
	MUR340SH MUR360SH			-	250	μA
Reverse recovery time	MUR305SH MUR310SH MUR315SH MUR320SH	I_F = 0.5A, I_R = 1.0A I_{rr} = 0.25A	t_{rr}	-	25	ns
	MUR340SH MUR360SH			-	50	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
MUR3xSH	DO-214AB (SMC)	3,000 / Tape & Reel

Notes:

1. "x" defines voltage from 50V(MUR305SH) to 600V(MUR360SH)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

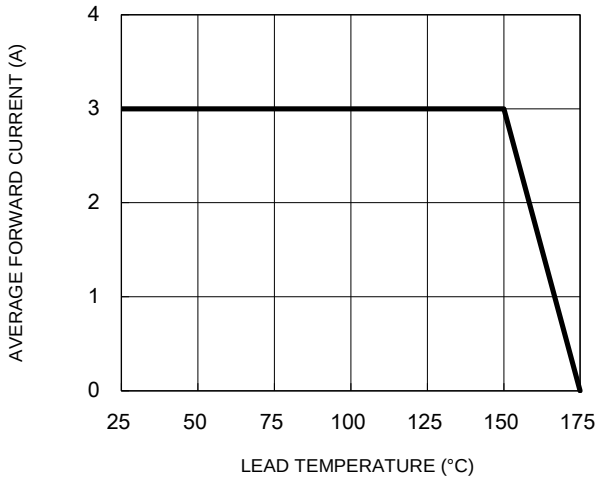


Fig.2 Typical Junction Capacitance

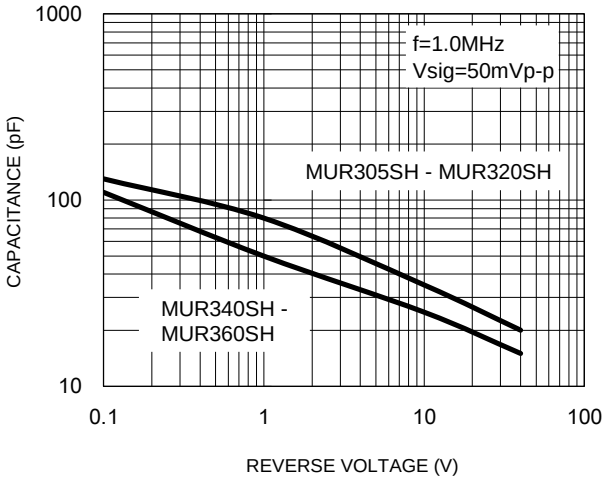


Fig.3 Typical Reverse Characteristics

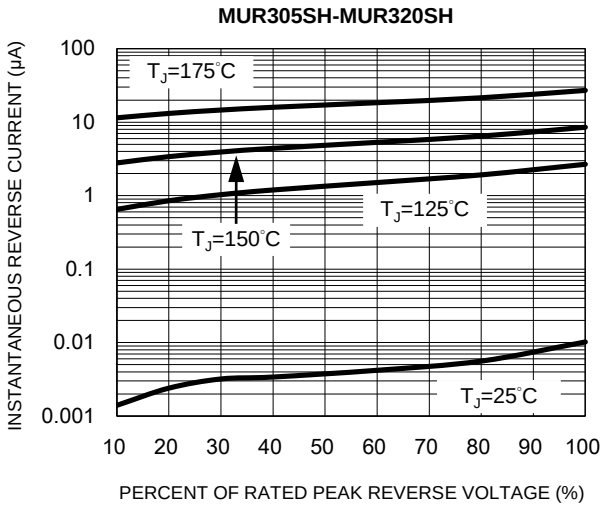


Fig.4 Typical Forward Characteristics

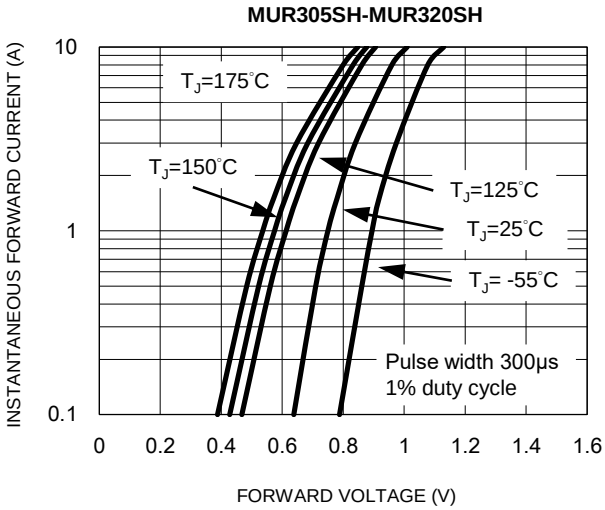


Fig.5 Typical Reverse Characteristics

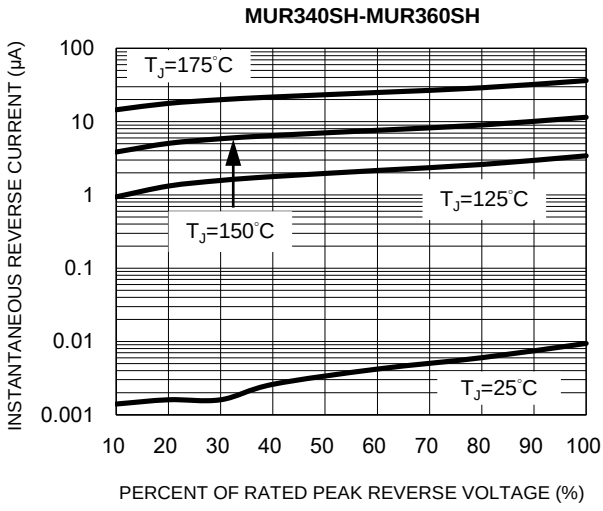
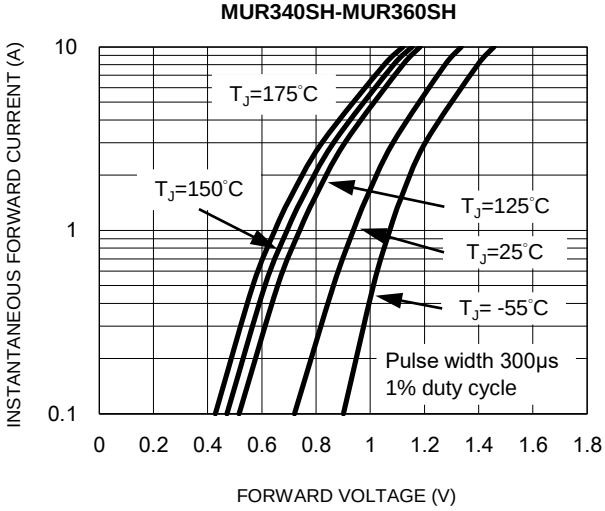


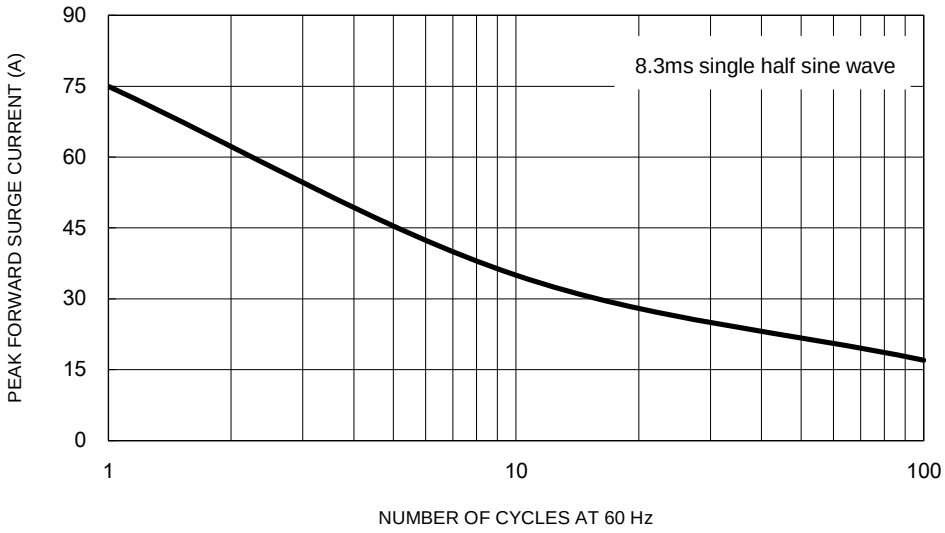
Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

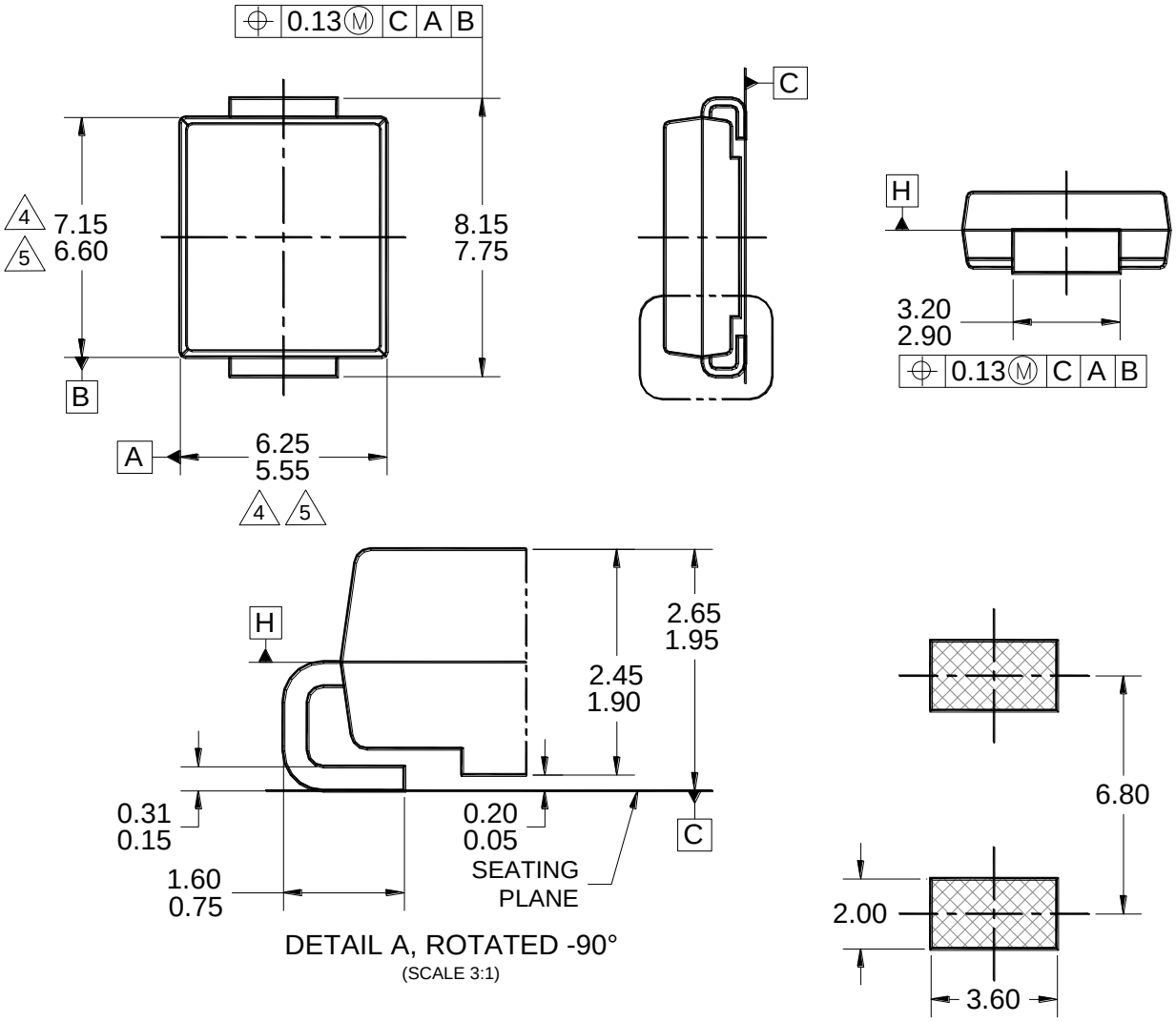
(T_A = 25°C unless otherwise noted)

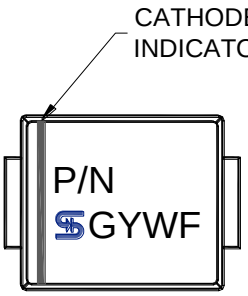
Fig.7 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

DO-214AB (SMC)





MARKING DIAGRAM

P/N = MARKING CODE
G = GREEN COMPOUND
YW = DATE CODE
F = FACTORY CODE

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-214, VARIATION AB, ISSUE D.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
5. MOLDED PLASTIC BODY LATERAL DIMENSIONS TO BE DETERMINED AT DATUM PLANE H.
6. DWG NO. REF: HQ2SD07-DO214SMC-036 REV A.

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