

3A, 400V - 600V High Efficient Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Glass passivated chip junction
- Ideal for automated placement
- Fast switching for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

APPLICATIONS

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

MECHANICAL DATA

- Case: DO-214AA (SMB)
- 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: 0.110g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	3	A
V_{RRM}	400 - 600	V
I_{FSM}	75	A
$T_{J\ MAX}$	175	°C
Package	DO-214AA (SMB)	
Configuration	Single die	



DO-214AA (SMB)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MUR340SBH	MUR360SBH	UNIT
Marking code on the device		MUR340SB	MUR360SB	
Repetitive peak reverse voltage	V_{RRM}	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	280	420	V
Forward current	I_F	3		A
Surge peak forward 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
Junction-to-ambient thermal resistance	$R_{\theta JA}$	57	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	14	°C/W

Thermal Performance Note: Units mounted on PCB (10mm x 10mm Cu pad test board)

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$	V_F	1.00	1.10	V
	$I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$		1.10	1.25	V
	$I_F = 1.5\text{A}, T_J = 150^\circ\text{C}$		0.76	1.00	V
	$I_F = 3.0\text{A}, T_J = 150^\circ\text{C}$		0.89	1.05	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 150^\circ\text{C}$		-	250	μA
Junction capacitance	1MHz, $V_R = 4.0\text{V}$	C_J	38	-	pF
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

Notes:

- Pulse test with $PW = 0.3\text{ms}$
- Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
MUR3xSBH	DO-214AA (SMB)	3,000 / Tape & Reel

Notes:

- "x" defines voltage from 400V(MUR340SBH) to 600V(MUR360SBH)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

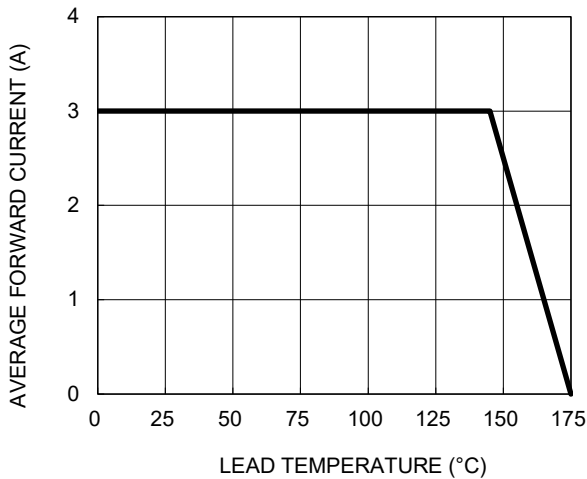


Fig.2 Typical Junction Capacitance

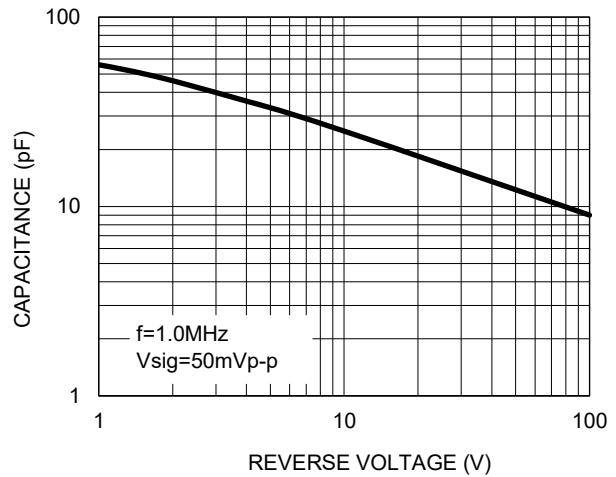


Fig.3 Typical Reverse Characteristics

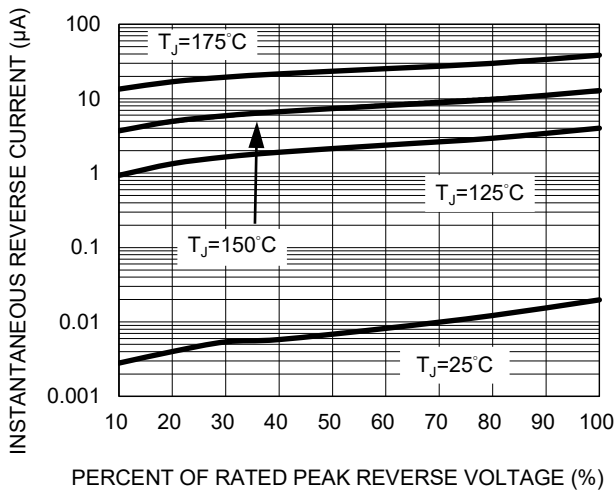
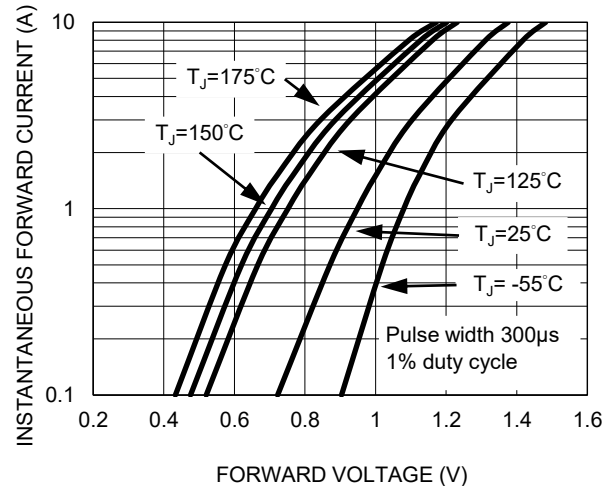
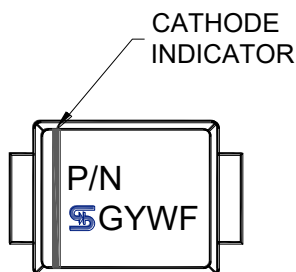
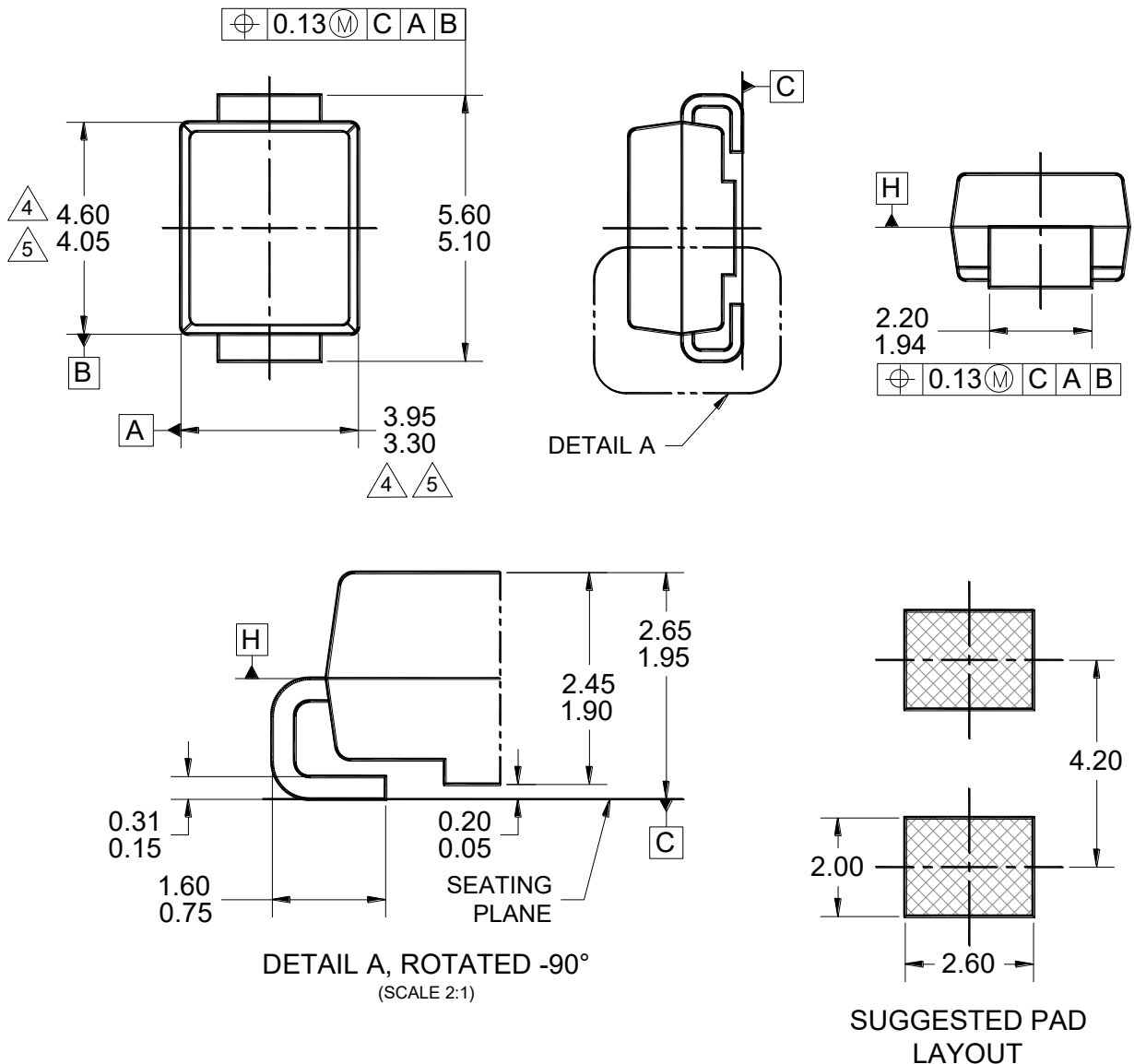


Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS

DO-214AA (SMB)



MARKING DIAGRAM

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

NOTES: UNLESS OTHERWISE SPECIFIED

- ALL DIMENSIONS ARE IN MILLIMETERS.
- DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
- PACKAGE OUTLINE REFERENCE: JEDEC DO-214, VARIATION AA, ISSUE D.
- MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
- MOLDED PLASTIC BODY LATERAL DIMENSIONS TO BE DETERMINED AT DATUM PLANE H.
- DWG NO. REF: HQ2SD07-DO214SMB-035 REV A.

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