

2A, 20V - 40V Surface Mount Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified
- Very low profile - typical height of 0.68mm
- Low power loss, high efficiency
- Ideal for automated placement
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	2	A
V_{RRM}	20 - 40	V
I_{FSM}	25	A
$T_{J\ MAX}$	150	°C
Package	Micro SMA	

APPLICATIONS

- Converter
- Free wheeling
- LED lighting
- Adapters



MECHANICAL DATA

- Case: Micro SMA
- 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: As marked
- Weight: 0.006 g (approximately)



Micro SMA

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SS22M	SS23M	SS24M	UNIT
Marking code on the device		D	E	F	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Forward current	$I_{F(AV)}$	2			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	25			A
Junction temperature	T_J	- 55 to +150			°C
Storage temperature	T_{STG}	- 55 to +150			°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP.	UNIT
Junction-to-lead Thermal Resistance	$R_{\theta JL}$	15	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	105	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	20	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.60	V
	$I_F = 2\text{A}, T_J = 125^\circ\text{C}$		-	0.55	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	150	μA
	$T_J = 125^\circ\text{C}$		-	15	mA
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	C_J	35	-	pF

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
SS22MHRSG	Micro SMA	3000 / 7" Plastic reel
SS23MHRSG	Micro SMA	3000 / 7" Plastic reel
SS24MHRSG	Micro SMA	3000 / 7" Plastic reel
SS22M RSG	Micro SMA	3000 / 7" Plastic reel
SS23M RSG	Micro SMA	3000 / 7" Plastic reel
SS24M RSG	Micro SMA	3000 / 7" Plastic reel

Note: "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

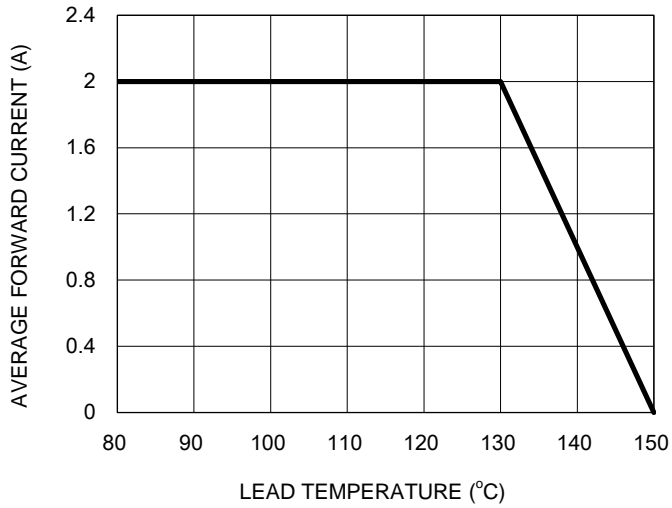


Fig.2 Typical Junction Capacitance

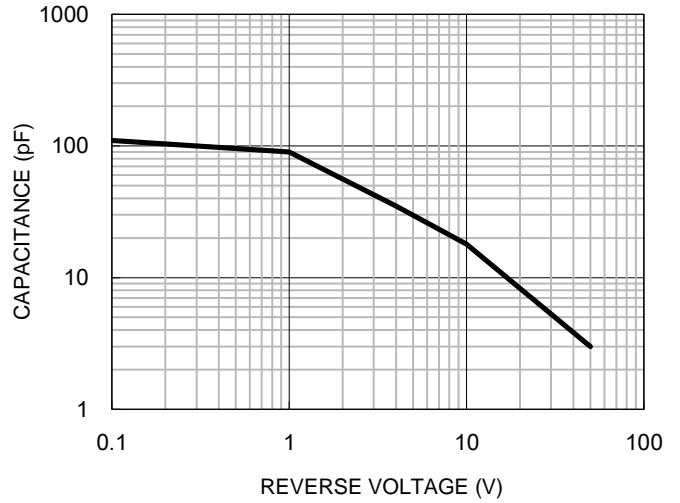


Fig.3 Typical Reverse Characteristics

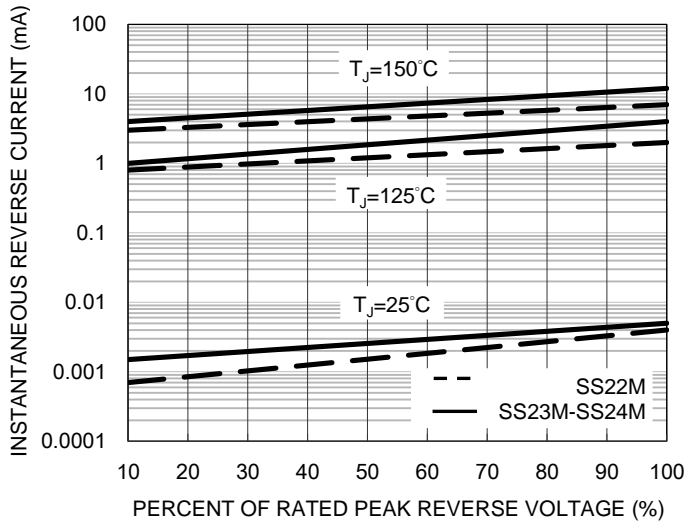
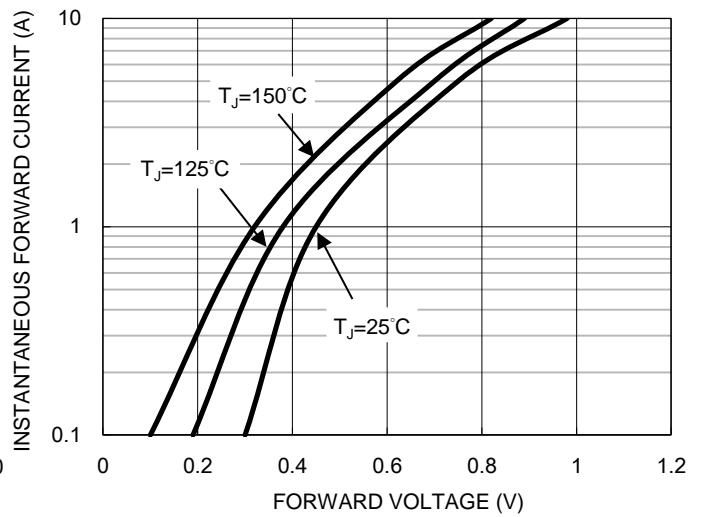


Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

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

Fig.7 Maximum Forward Surge Current

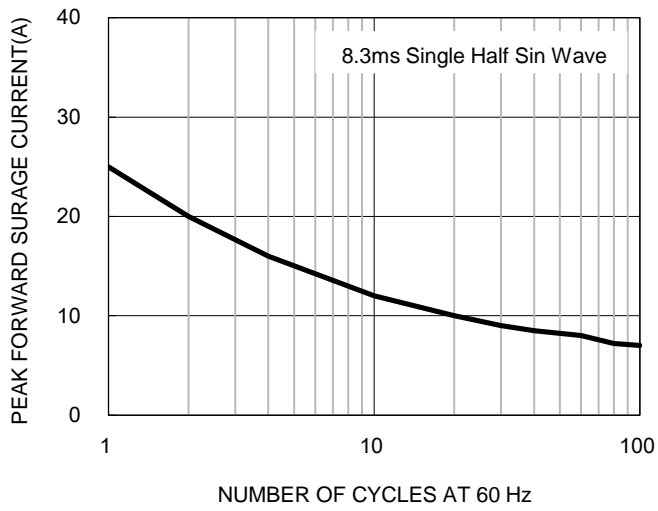
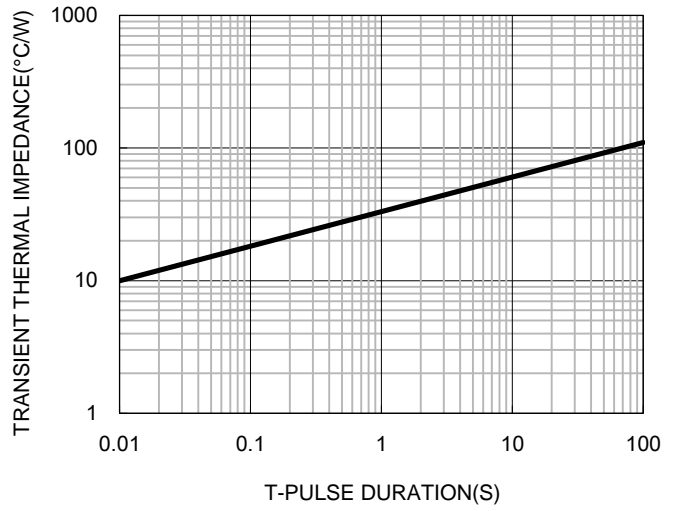
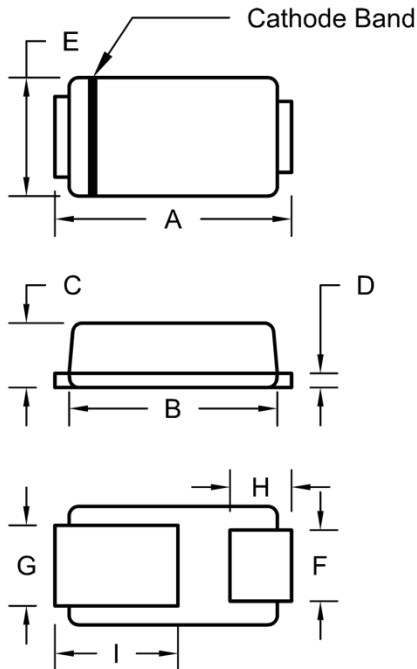


Fig.8 Typical Transient Thermal Impedance



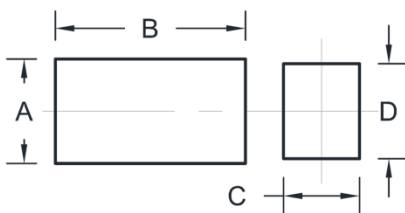
PACKAGE OUTLINE DIMENSIONS

Micro SMA



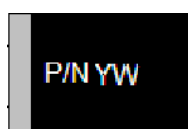
DIM	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.30	2.70	0.091	0.106
B	2.10	2.30	0.083	0.091
C	0.63	0.73	0.025	0.029
D	0.10	0.20	0.004	0.008
E	1.15	1.35	0.045	0.053
F	0.65	0.85	0.026	0.034
G	0.75	0.95	0.030	0.037
H	0.55	0.75	0.022	0.030
I	1.10	1.50	0.043	0.059

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.10	0.043
B	2.00	0.079
C	0.80	0.031
D	1.00	0.039

MARKING DIAGRAM



P/N = Marking Code
YW = Date Code

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