3A, 1000V Low Profile Surface Mount Fast Recovery Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Fast switching for high efficiency
- 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**
$I_{F(AV)}$	3	A
V_{RRM}	1000	V
I_{FSM}	80	A
$T_{J\ MAX}$	150	°C
Package	SOD-128	
Configuration	Single Die	

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

MECHANICAL DATA

- Case: SOD-128
- Molding compound meets UL 94V-0 flammability rating
- Part no. with suffix “H” means AEC-Q101 qualified
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.06 g (approximately)

SOD-128

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)			
PARAMETER	**SYMBOL**	**RS3MFS**	**UNIT**
Marking code on the device		RS3MFS	
Repetitive peak reverse voltage	V_{RRM}	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	700	V
Forward current	$I_{F(AV)}$	3	A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	80	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	$R_{\Theta JL}$	23	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	88	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	24	°C/W

Thermal Performance Note: Units mounted on recommended PCB (5mm x 5mm Cu pad test board)

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	I_F =1.5A, T_J = 25°C	V_F	1.10	1.21	V
	I_F =3.0A, T_J = 25°C		1.20	1.30	V
	I_F =1.5A, T_J = 125°C		0.90	1.00	V
	I_F =3.0A, T_J = 125°C		1.03	1.20	V
Reverse current @ rated V_R per diode (2)	T_J = 25°C	I_R	-	5	μA
	T_J = 150°C		-	250	μA
Junction capacitance	1 MHz, V_R=4.0V	C_J	15	-	pF
Reverse recovery time	I_F=0.5A, I_R=1.0A I_{RR}=0.25A	t_{rr}	-	160	ns

Notes:

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

ORDERING INFORMATION

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
RS3MFS (Note 1)	H	MW	G	SOD-128	3,500 / 7" Plastic reel
		MX		SOD-128	14,000 / 13" Plastic reel

Note:

1. Whole series with green compound (halogen-free)

EXAMPLE P/N

EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
RS3MFSHMWG	RS3MFS	H	MW	G	AEC-Q101 qualified Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

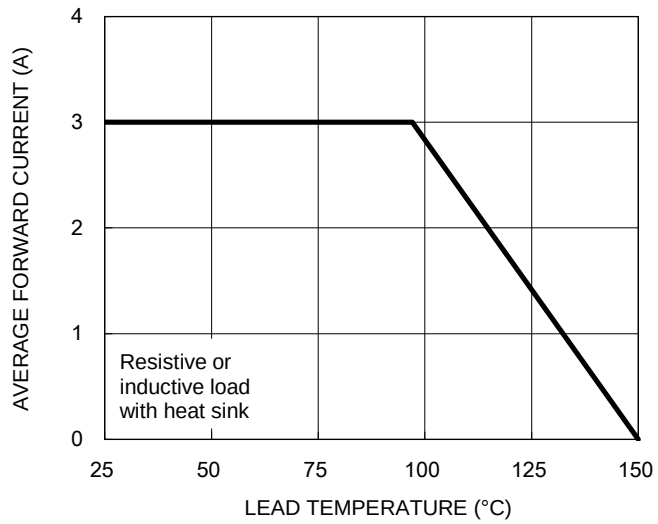


Fig.2 Typical Junction Capacitance

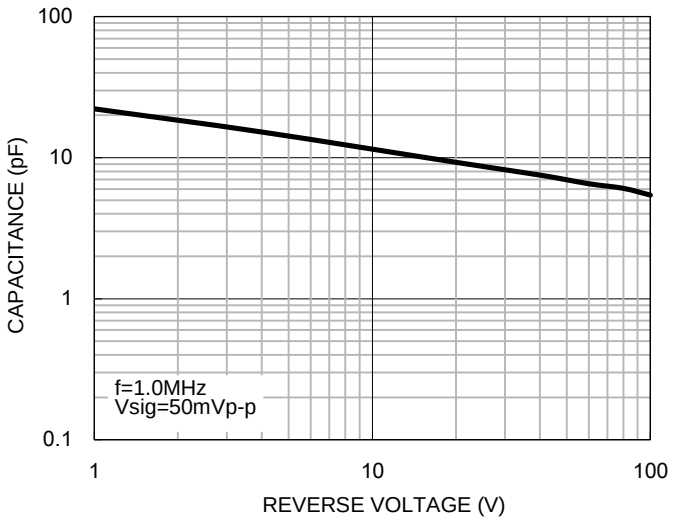


Fig.3 Typical Reverse Characteristics

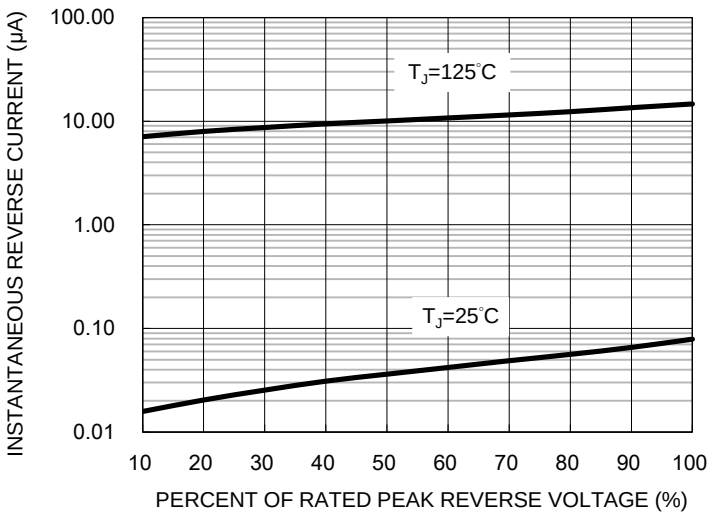
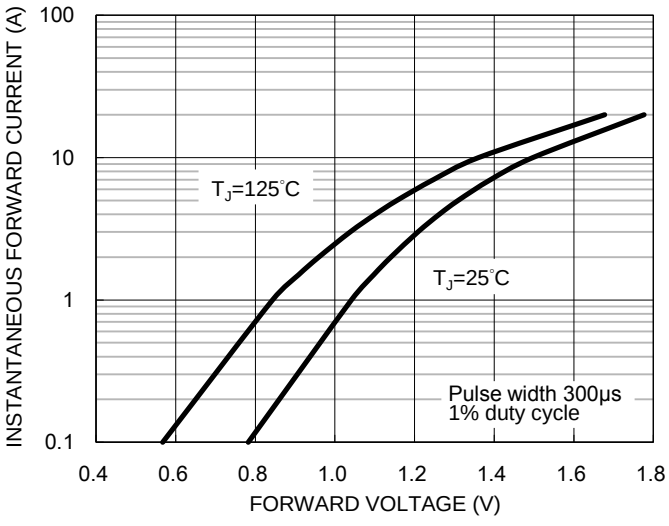
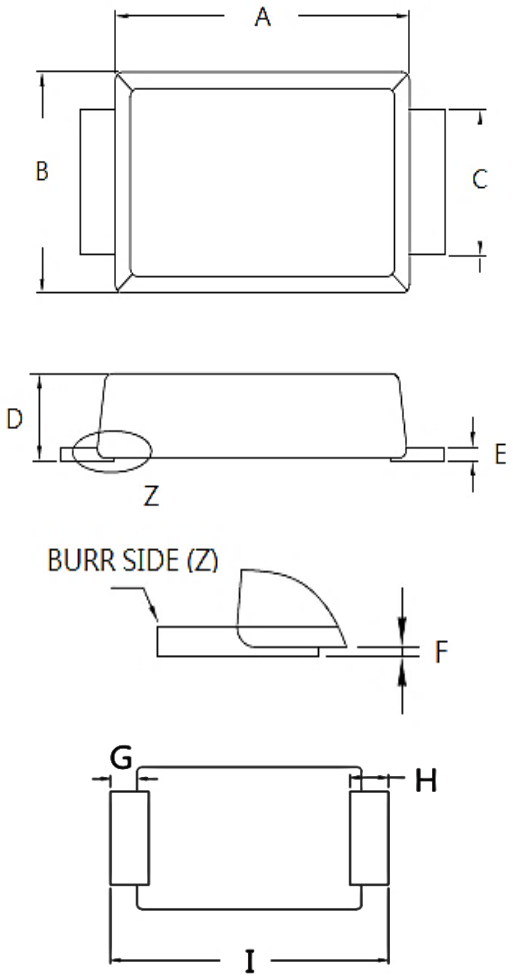


Fig.4 Typical Forward Characteristics



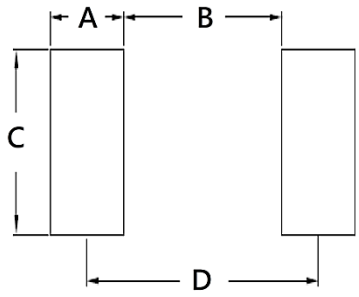
PACKAGE OUTLINE DIMENSIONS

SOD-128



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.60	4.00	0.142	0.157
B	2.30	2.70	0.091	0.106
C	1.60	1.90	0.063	0.075
D	0.90	1.10	0.035	0.043
E	0.10	0.22	0.004	0.009
F	0.00	0.10	0.000	0.004
G	0.30	0.60	0.012	0.024
H	0.40	0.80	0.016	0.031
I	4.40	5.00	0.173	0.197

SUGGESTED PAD LAYOUT



DIM	Unit (mm)	Unit (inch)
A	1.40	0.055
B	3.00	0.118
C	2.10	0.082
D	4.40	0.173

MARKING DIAGRAM

P/N = Marking Code
YW = Date Code
F = Factory Code

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