

Pb Free Plating Product

S1A thru S1M



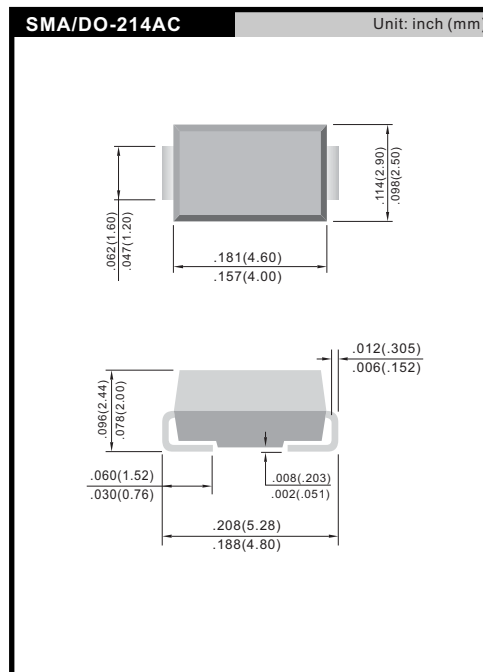
1.0 Ampere Surface Mount Glass Passivated General Purpose Rectifiers

Features

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant

Mechanical Data

- Case: DO-214AC (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: Indicated by cathode band
- Weight: 0.060g (approximately)



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

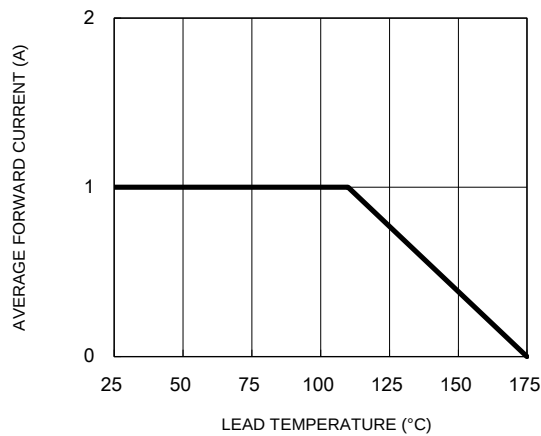
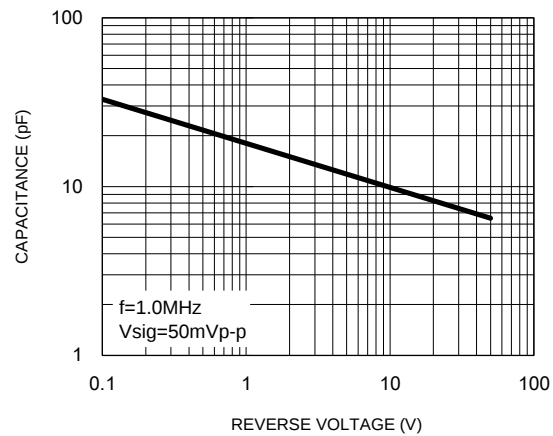
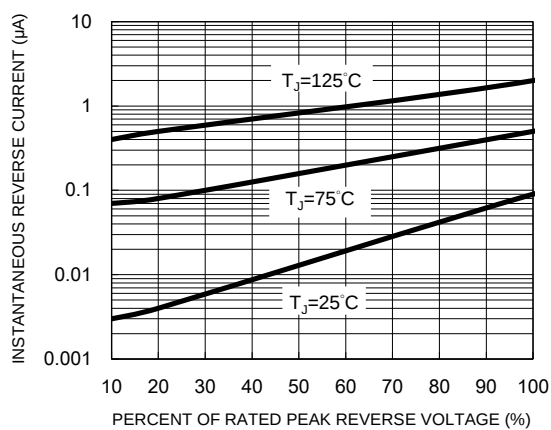
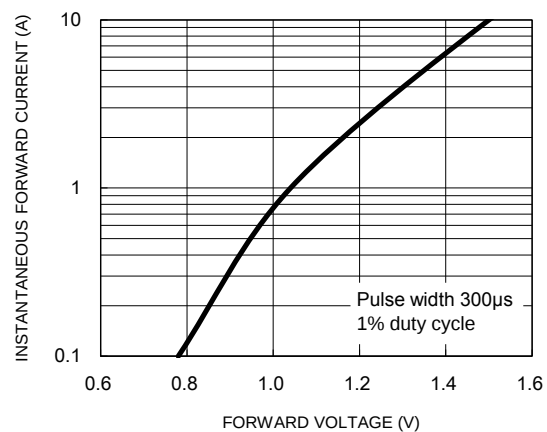
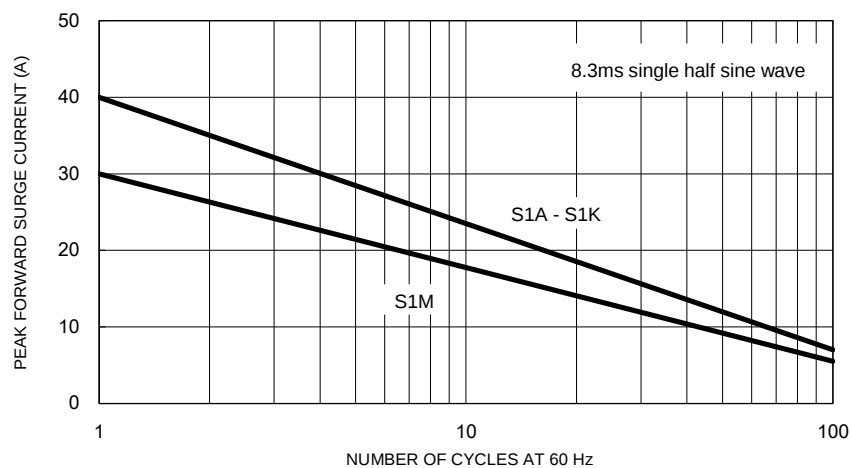
PARAMETER	SYMBOL	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNIT
Marking code on the device	THINKI	S1A	S1B	S1D	S1G	S1J	S1K	S1M	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Forward current	I_F	1							A
Peak forward surge current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	40							A
Non-repetitive peak reverse avalanche energy, $I_{AS} = 1A$, $L = 10mH$	E_{RSM}	5							mJ
Junction temperature	T_J	- 55 to +175							$^\circ\text{C}$
Storage temperature	T_{STG}	- 55 to +175							$^\circ\text{C}$

THERMAL PERFORMANCE					
PARAMETER		SYMBOL	TYP	UNIT	
Junction-to-lead thermal resistance	S1A S1B S1D S1G S1J	$R_{\theta JL}$	27	$^{\circ}\text{C/W}$	
	S1K S1M		30	$^{\circ}\text{C/W}$	
Junction-to-ambient thermal resistance	S1A S1B S1D S1G S1J	$R_{\theta JA}$	75	$^{\circ}\text{C/W}$	
	S1K S1M		85	$^{\circ}\text{C/W}$	

ELECTRICAL SPECIFICATIONS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 1\text{A}$, $T_J = 25^{\circ}\text{C}$	V_F	0.95	1.1	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^{\circ}\text{C}$	I_R	-	1	μA
	$T_J = 125^{\circ}\text{C}$		-	50	μA
Junction capacitance	1MHz, $V_R = 4.0\text{V}$	C_J	12	-	pF
Reverse recovery time	$I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	t_{rr}	1500	-	ns

Notes:

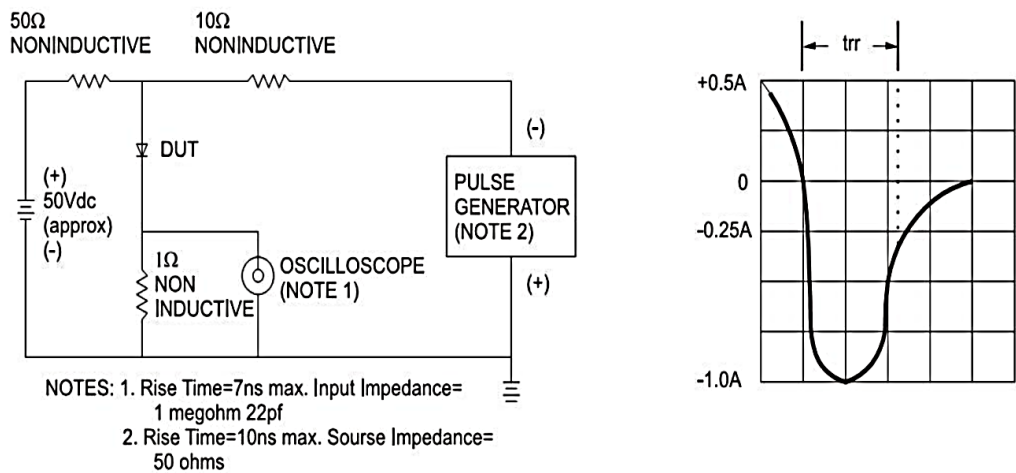
1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

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 Maximum Non-Repetitive Forward Surge Current**

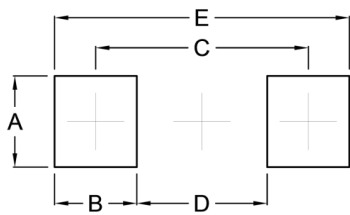
CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram



SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215