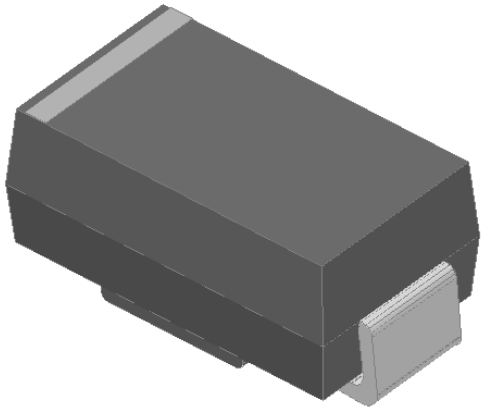
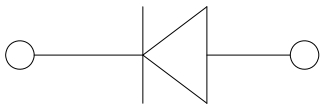
Surface Mount General Purpose Rectifier





Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

Mechanical Data

- **Package**: DO-214AC (SMA)
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	GS1MH
Device marking code			GS1MH
Maximum Repetitive Peak Reverse Voltage	V_{RRM}		1000
Maximum RMS Voltage	V_{RMS}		700
Maximum DC blocking Voltage	V_{DC}		1000
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_O	A	1.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	30
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			60
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	3.735
Storage temperature	T_{stg}	℃	-55 ~ +150
Junction temperature	T_j	℃	-55 ~ +150

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		GS1MH
Reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	Min	1000
				Max	2000
Maximum instantaneous forward voltage	V_F	V	I_{FM}=1.0A		1.1
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	T_j=25℃		5
			T_j=125℃		100
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C		8

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	GS1MH
Typical Thermal Resistance	$R_{\theta J-A}$(1)	℃/W	70
	$R_{\theta J-L}$(1)	℃/W	22
	$R_{\theta J-C}$(1)	℃/W	20

Note
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GS1MH	F1	Approximate 0.059	5000	/	80000	13” reel
GS1MH	F2	Approximate 0.059	7500	/	120000	13” reel
GS1MH	F3	Approximate 0.059	7500	/	60000	13” reel
GS1MH	F4	Approximate 0.059	1800	14400	57600	7” reel
GS1MH	F5	Approximate 0.059	2000	16000	64000	7” reel
GS1MH	F6	Approximate 0.059	5000	/	100000	13” reel

■ Characteristics (Typical)

FIG.1: Io-TL Curve

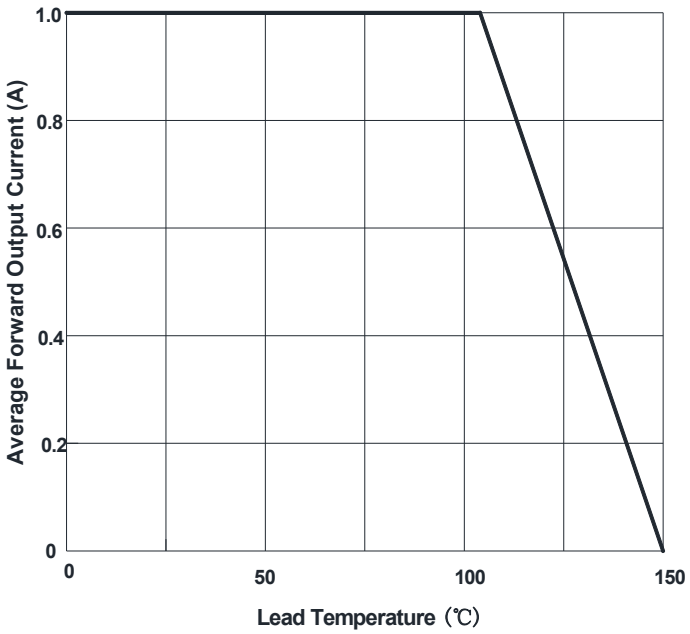


FIG.2: Forward Surge Current Capability

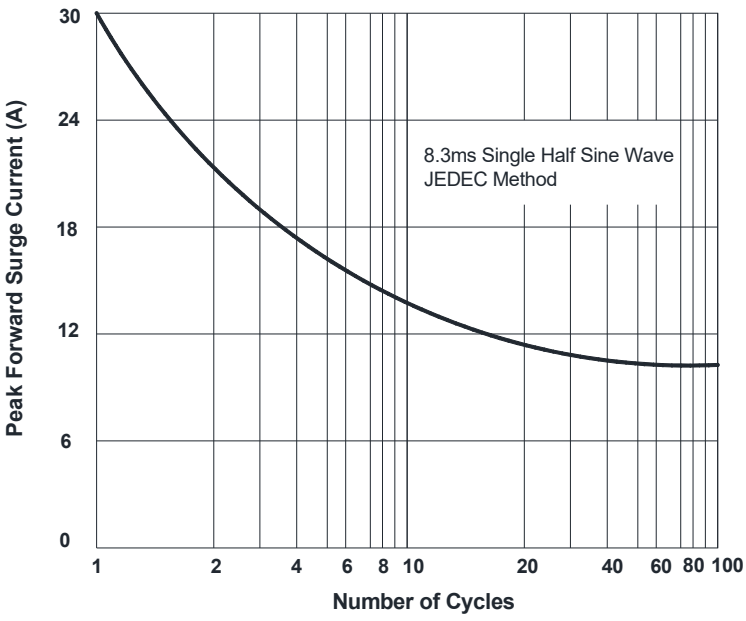


FIG.3: Typical Forward Voltage

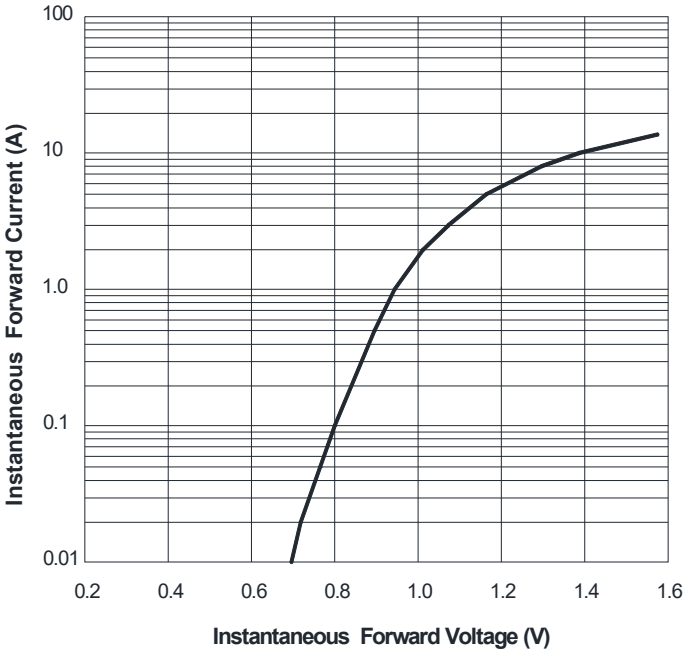


FIG.4: Typical Reverse Characteristics

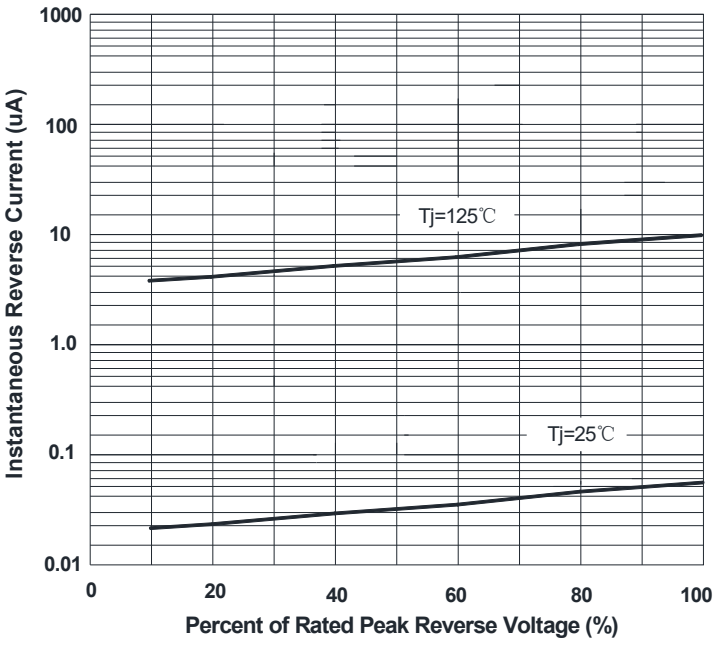
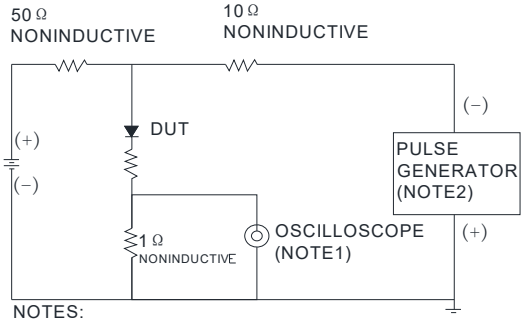
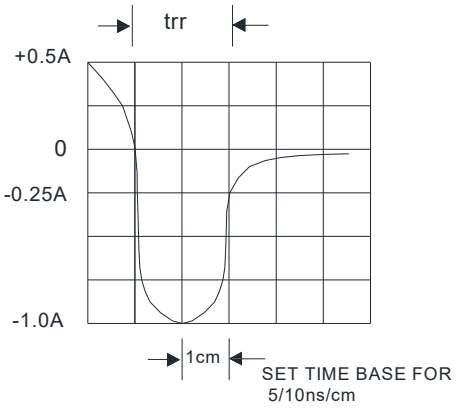


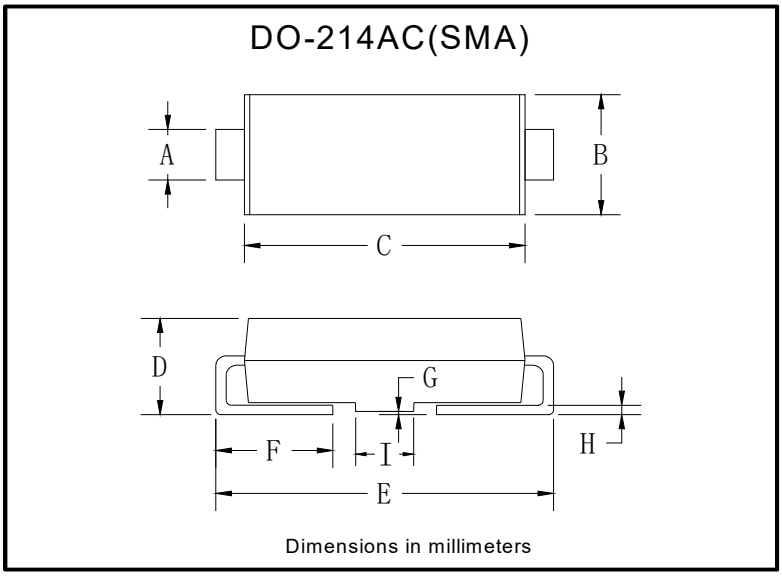
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



NOTES:
1.Rise Time=7ns max .Inpot Impedance=1MΩ 22pf
2.Rise Time=10ns max.Sourse Impedance=50Ω

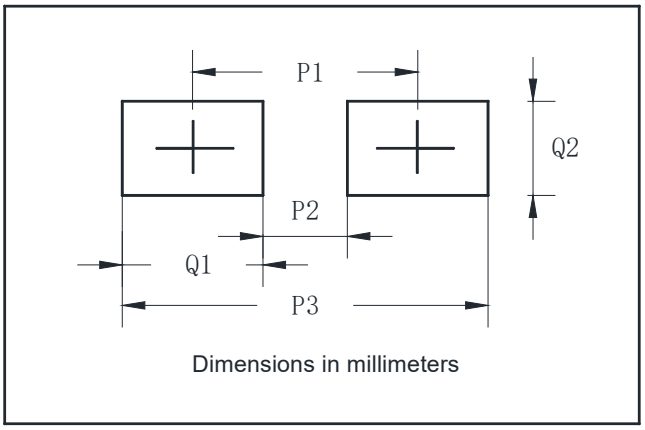


■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.70	2.10

■Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.
Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.