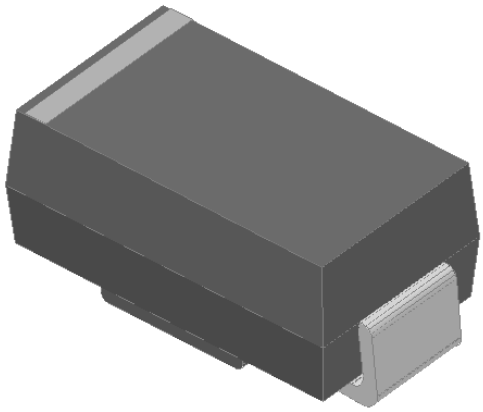
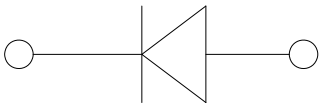
Surface Mount High Efficient Rectifier





Features

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

Typical Applications

For use in high frequency 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	HS1Y
Device marking code			HS1Y
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	1600
Maximum RMS Voltage	V_{RMS}	V	1120
Maximum DC blocking Voltage	V_{DC}	V	1600
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
E.S.D HBM:100pF,1500Ω	VR	kV	2

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS1Y
Maximum instantaneous forward voltage	V_F	V	I_{FM}=1.0A	3.0
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	75
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	11

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

PARAMETER	SYMBOL	UNIT	HS1Y
Typical Thermal resistance	$R_{\theta J-A}$(1)	℃/W	75
	$R_{\theta J-L}$(1)		28
	$R_{\theta J-C}$(1)		22

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

■ Characteristics (Typical)

FIG.1: Io-TL Cure

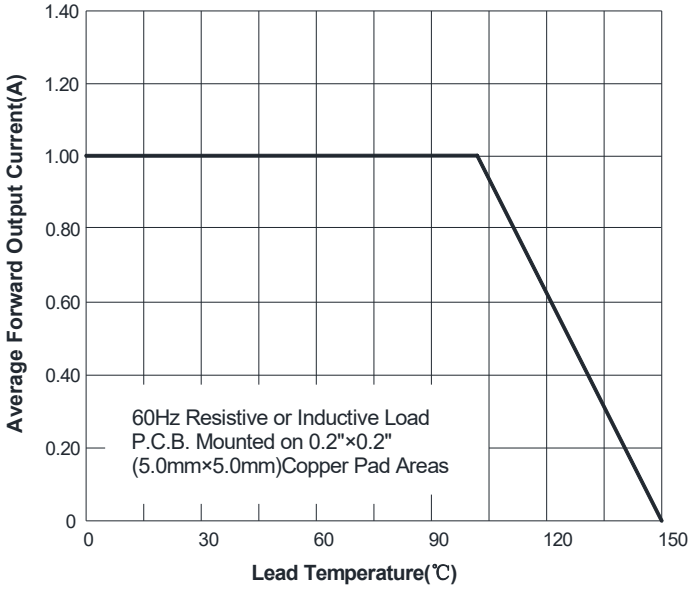


FIG.2: Forward Surge Current Capability

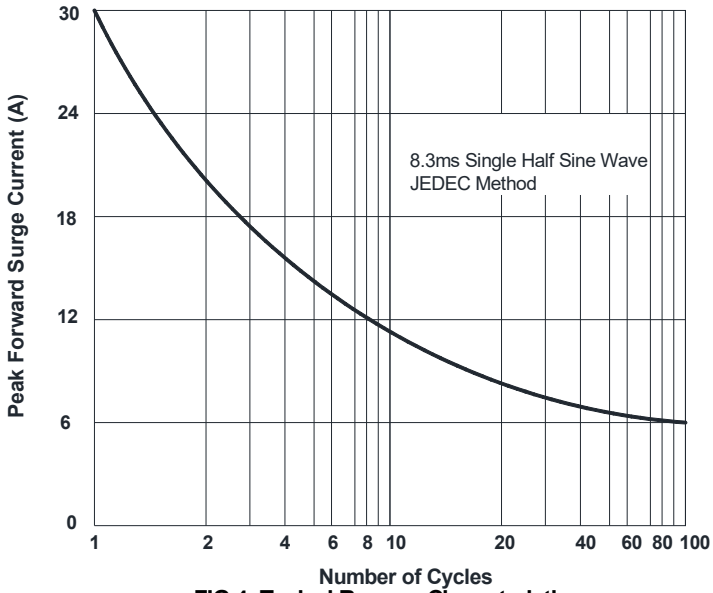


FIG.3: Typical Forward Characteristics

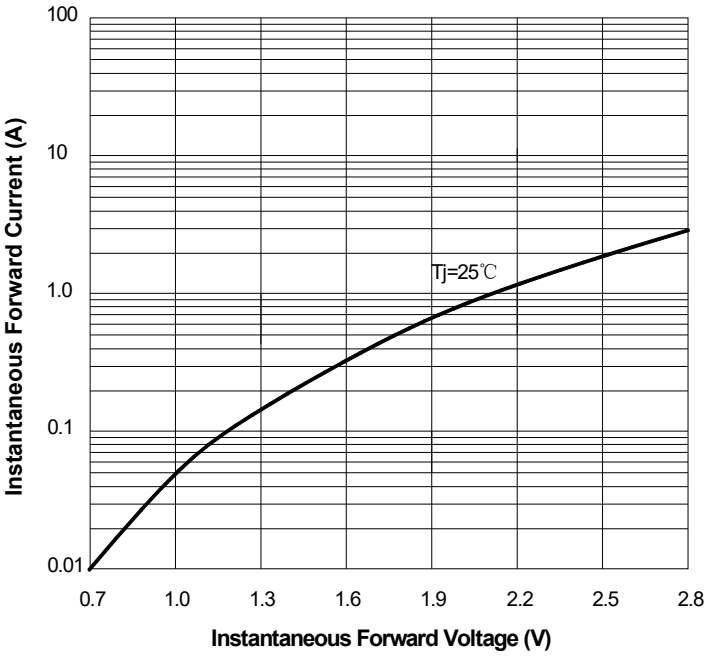


FIG.4: Typical Reverse Characteristics

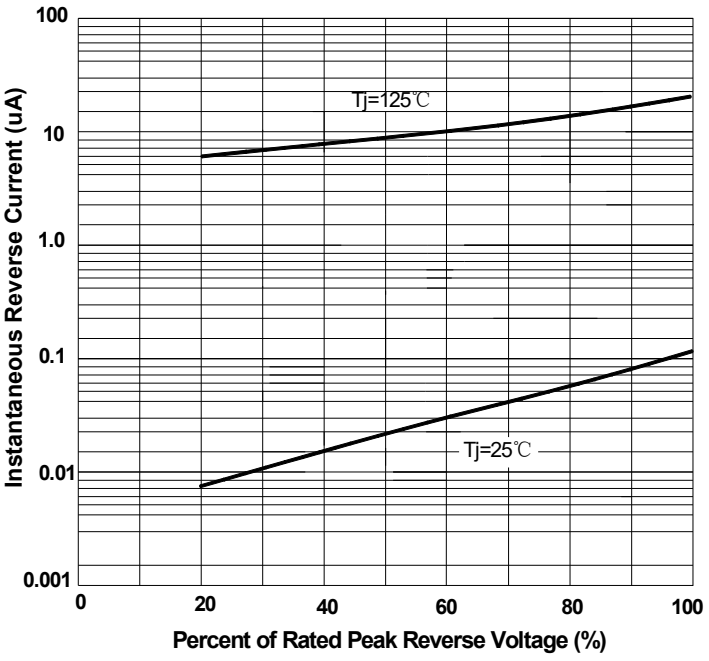
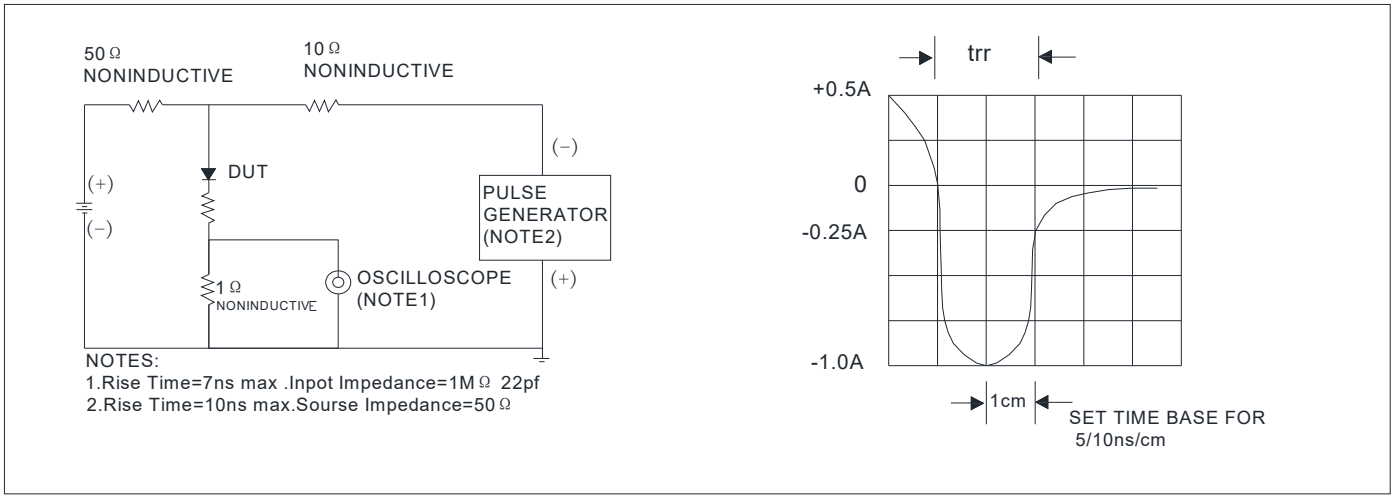


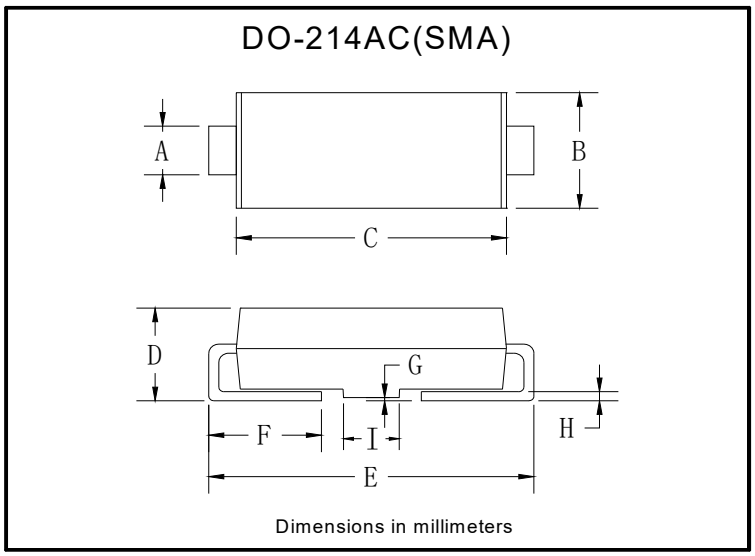
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Ordering Information (Example)

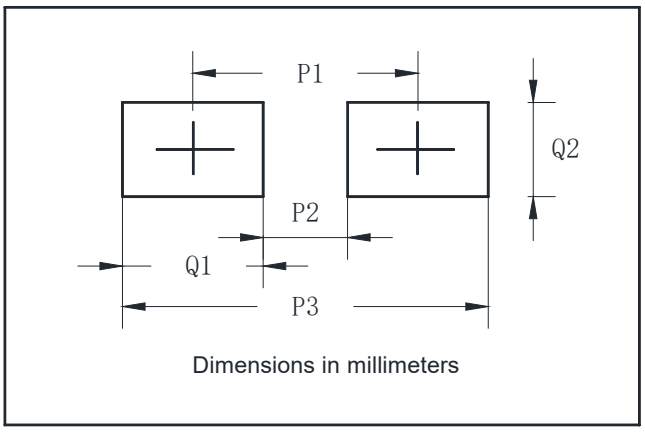
PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS1Y	F1	Approximate 0.059	5000	/	80000	13” reel
HS1Y	F2	Approximate 0.059	7500	/	120000	13” reel
HS1Y	F3	Approximate 0.059	7500	/	60000	13” reel
HS1Y	F4	Approximate 0.059	1800	14400	57600	7” reel
HS1Y	F5	Approximate 0.059	2000	16000	64000	7” reel
HS1Y	F6	Approximate 0.059	5000	/	100000	13” reel

■ 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

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