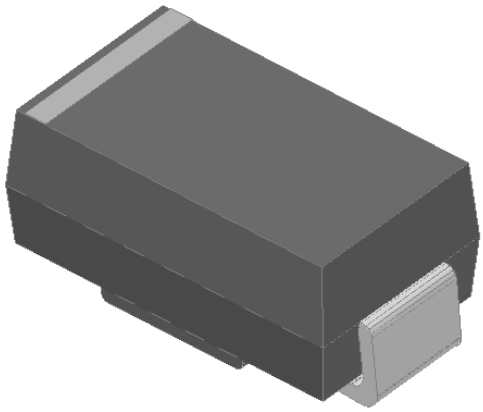
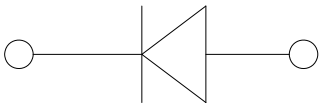
Surface Mount High Efficient Rectifier





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
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

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

PARAMETER	SYMBOL	UNIT	US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M
Device marking code			US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	300	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	210	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	300	400	600	800	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≤t8.3≤ms Tj=25℃， Rating of per diode	I^2t	A^2s	3.735							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	15			10		7		
Storage temperature	Tstg	℃	-55 ~ +150							
Junction temperature	Tj	℃	-55 ~ +150							

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=1.0A	1.0			1.3		1.7		
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	T_j=25℃	5							
			T_j=125℃	100							

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

PARAMETER	SYMBOL	UNIT	US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M
Typical Thermal resistance	$R_{\theta J-A}$(1)	℃/W	70							
	$R_{\theta J-L}$(1)		25							
	$R_{\theta J-C}$(1)		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

■ Characteristics (Typical)

FIG.1: Io-TL Cure

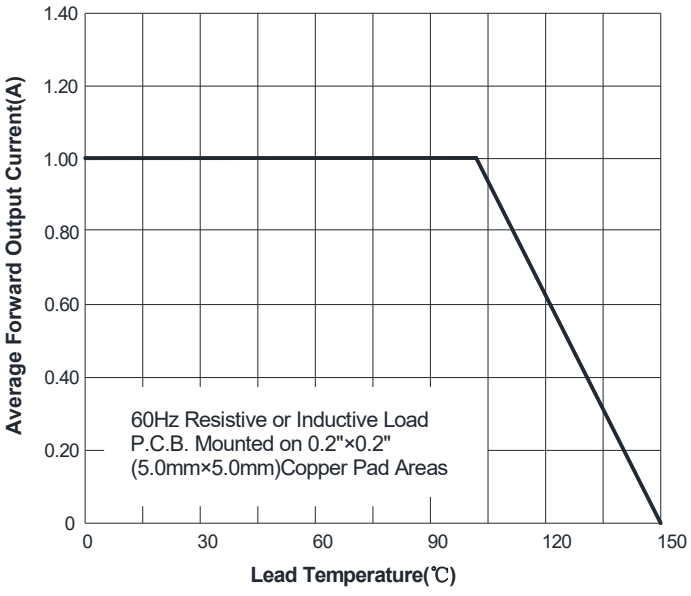


FIG.2: Forward Surge Current Capability

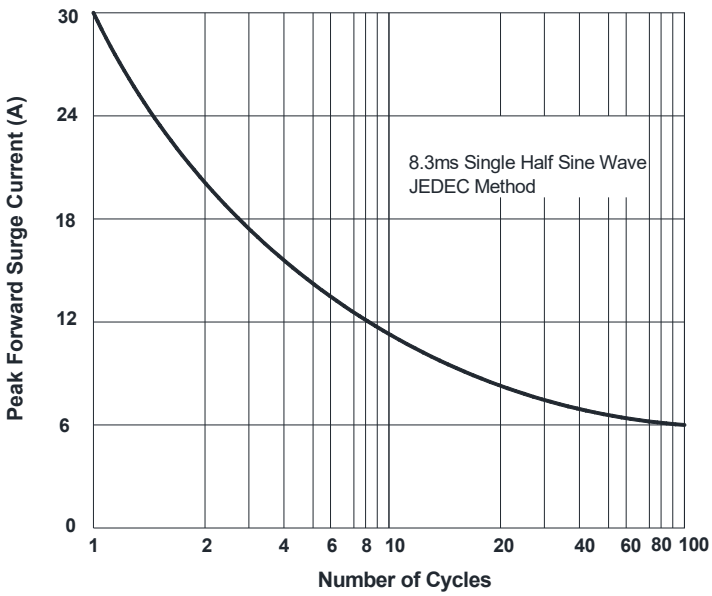


FIG.3: Typical Forward Characteristics

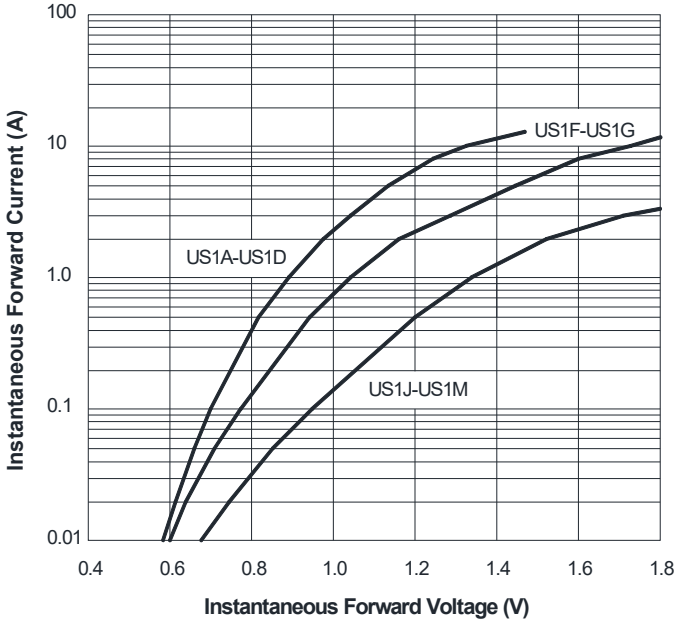


FIG.4: Typical Reverse Characteristics

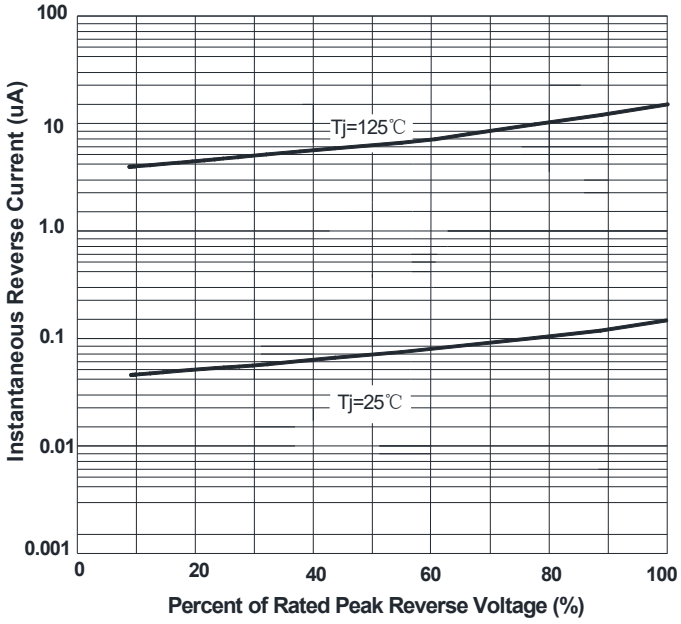
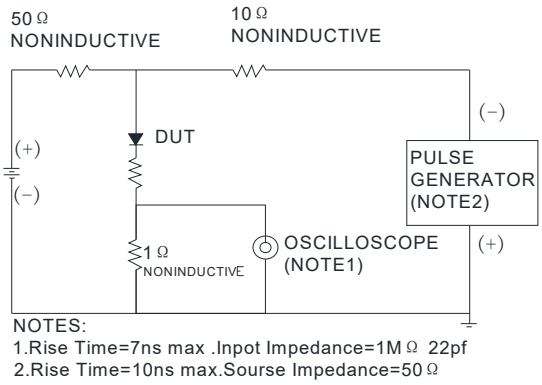
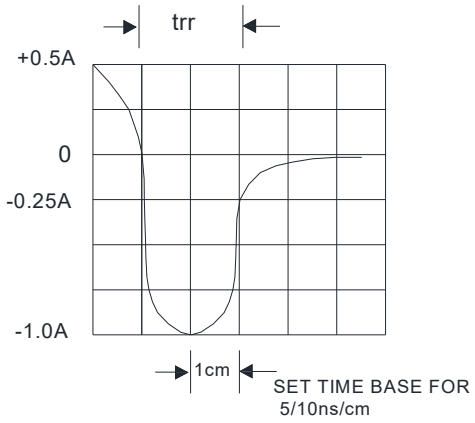


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

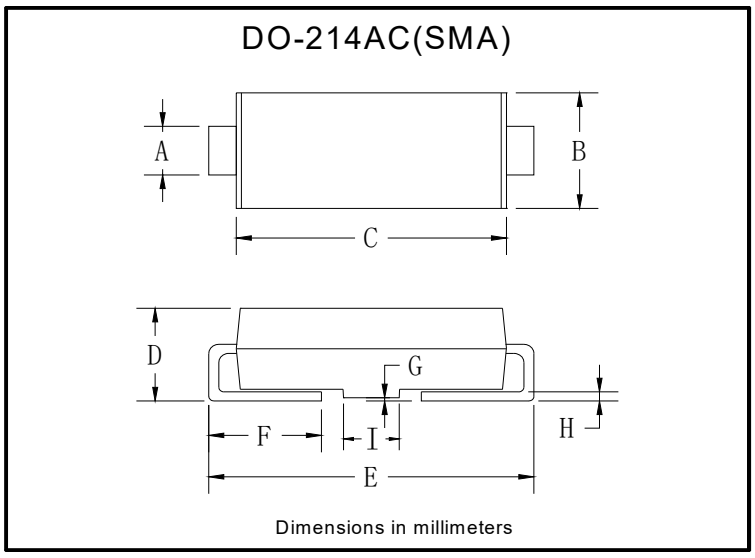




■Ordering Information (Example)

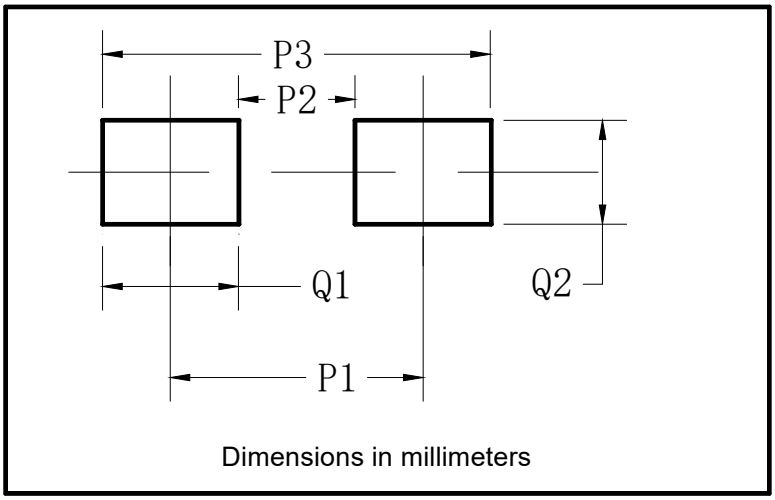
PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
US1A-US1M	F1	Approximate 0.059	5000	/	80000	13” reel
US1A-US1M	F2	Approximate 0.059	7500	/	120000	13” reel
US1A-US1M	F3	Approximate 0.059	7500	/	60000	13” reel
US1A-US1M	F4	Approximate 0.059	1800	14400	57600	7” reel
US1A-US1M	F5	Approximate 0.059	2000	16000	64000	7” reel
US1A-US1M	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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