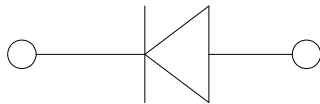
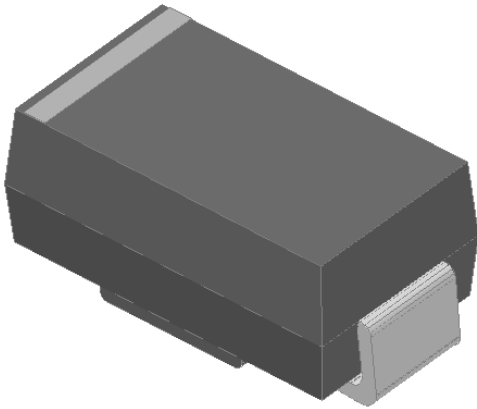


## Surface Mount High Efficient Rectifier



### 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 ( $T_a=25^\circ\text{C}$ 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
Repetitive peak reverse voltage	VRRM	V	50	100	200	300	400	600	800	1000
Average rectified output current @60Hz sine wave, Resistance load, TL(FIG.1)	IO	A	1.0							
Surge(non-repetitive)forward current @ 60Hz Half-sine wave,1 cycle, $T_j=25^\circ\text{C}$	IFSM	A	30							
Current squared time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$ , Rating of per diode	I <sup>2</sup> t	A <sup>2</sup> S	3.7							
Storage temperature	Tstg	°C	-55 ~ +150							
Junction temperature	Tj	°C	-55 ~ +150							

### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M
Maximum instantaneous forward voltage drop per diode	VF	V	IFM=1.0A	1.0			1.3		1.7		
Maximum reverse recovery time	T <sub>RR</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>r</sub> =0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	IRRM	μA	T <sub>a</sub> =25°C	5							
			T <sub>a</sub> =125°C	100							



# US1A THRU US1M

## ■ Thermal Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M
Typical Thermal Resistance	$R_{\theta J-A}$	$^\circ\text{C/W}$	75 <sup>1)</sup>							
	$R_{\theta J-L}$	$^\circ\text{C/W}$	23 <sup>1)</sup>							

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

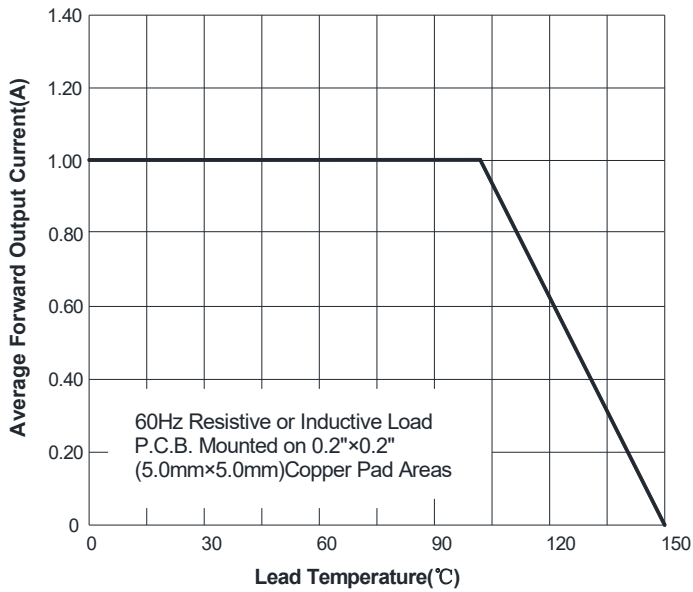


FIG.2: Forward Surge Current Capability

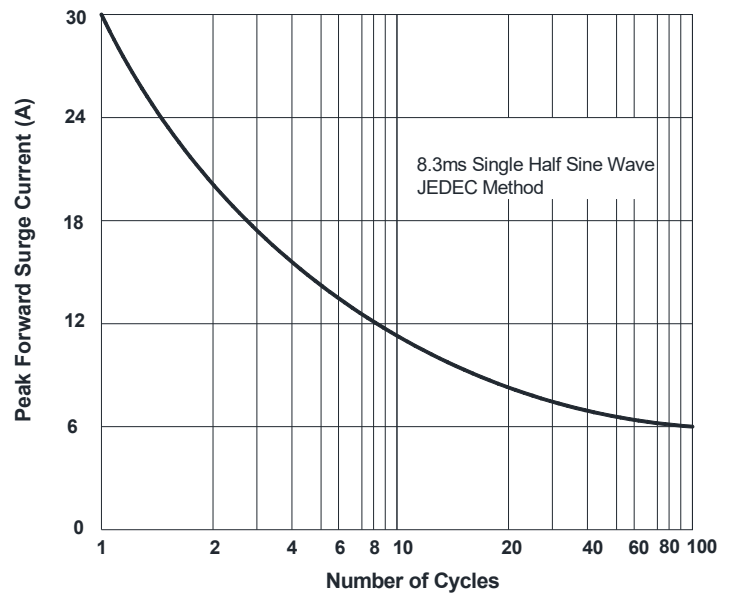


FIG.3: Typical Forward Characteristics

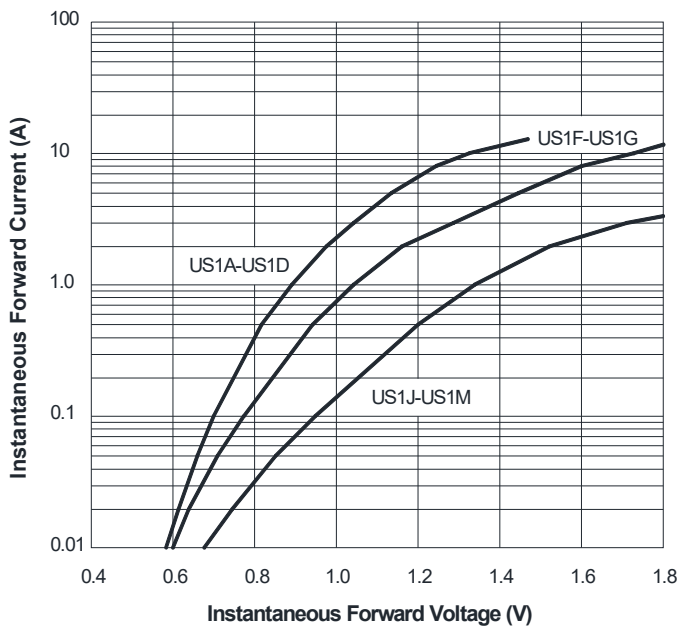


FIG.4: Typical Reverse Characteristics

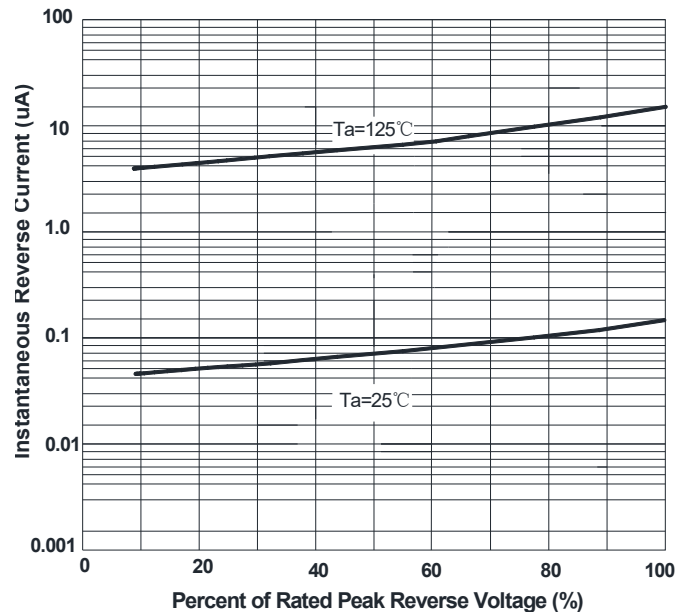
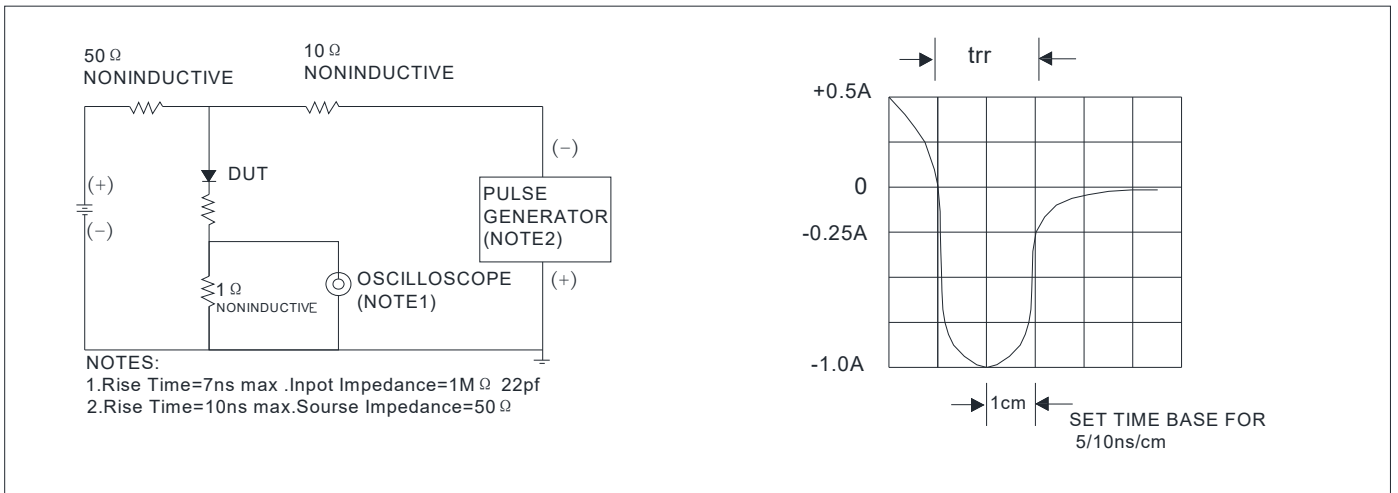


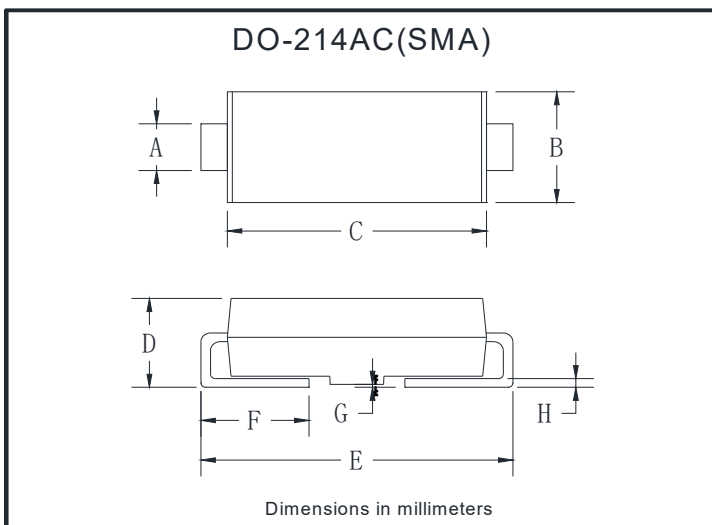
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## Ordering Information (Example)

PREFERRED 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	10000	80000	13" reel
US1A-US1M	F2	Approximate 0.059	7500	15000	120000	13" reel
US1A-US1M	F3	Approximate 0.059	7500	15000	60000	13" reel
US1A-US1M	F4	Approximate 0.059	1800	7200	57600	7" reel
US1A-US1M	F5	Approximate 0.059	2000	8000	64000	7" reel
US1A-US1M	F6	Approximate 0.059	5000	10000	100000	13" reel

## Outline Dimensions

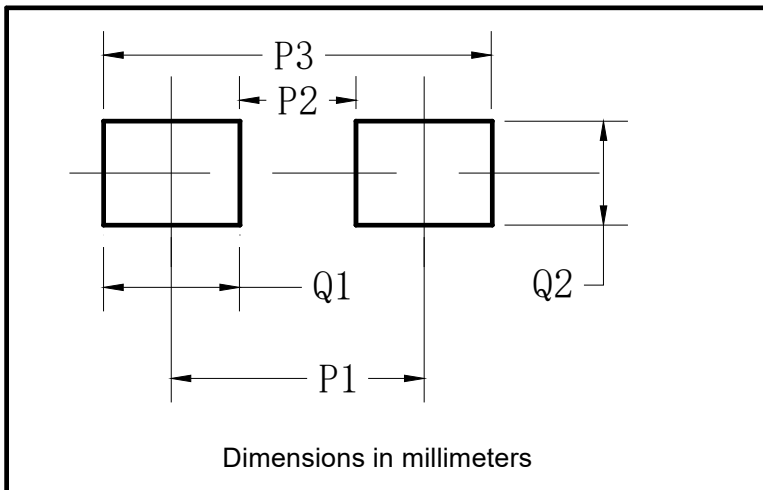


DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.25	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.08	0.20
H	0.15	0.31



## US1A THRU US1M

### ■ Suggested Pad Layout



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



# US1A THRU US1M

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