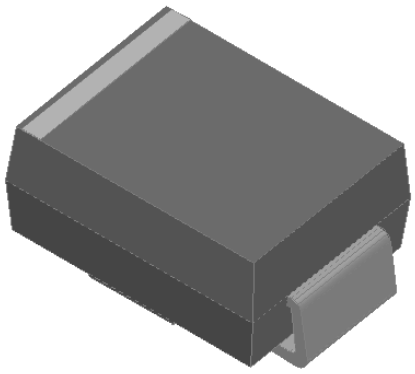
Surface Mount High Efficient Rectifier

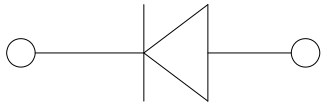


Features

- 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-214AA (SMB)
  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	US2A	US2B	US2D	US2F	US2G	US2J	US2K	US2M
Device marking code			US2A	US2B	US2D	US2F	US2G	US2J	US2K	US2M
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	2.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	50							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			100							
Current squared time @1ms≤t≤8.3ms Tj=25℃，Rating of per diode	I^2t	A^2s	10.375							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	32			17		12		
Storage temperature	T_{stg}	℃	-55 ~ +150							
Junction temperature	T_j	℃	-55 ~ +150							

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	US2A	US2B	US2D	US2F	US2G	US2J	US2K	US2M
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=2.0A	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℃	5.0							
			T_j =125℃	100							

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

PARAMETER	SYMBOL	UNIT	US2A	US2B	US2D	US2F	US2G	US2J	US2K	US2M
Typical Thermal Resistance	$R_{\theta J-A}$	℃/W	70[1)]							
	$R_{\theta J-L}$		22[1)]							
	$R_{\theta J-C}$		18[1)]							

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG.1: Io-TL Cure

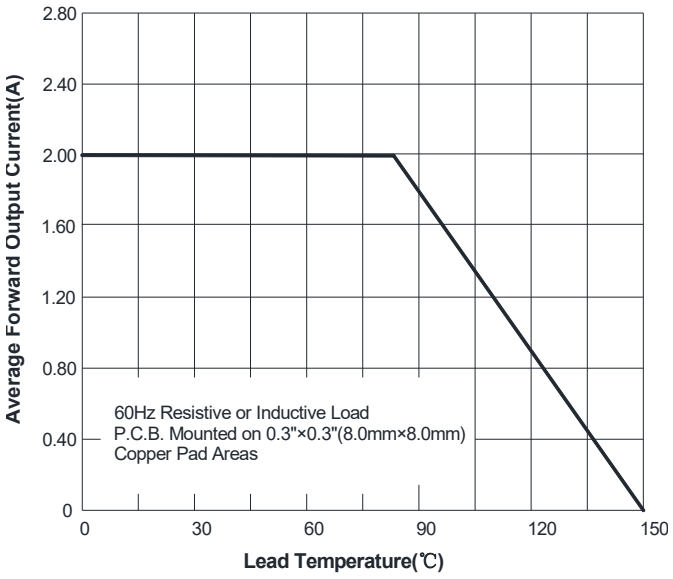


FIG.2: Forward Surge Current Capability

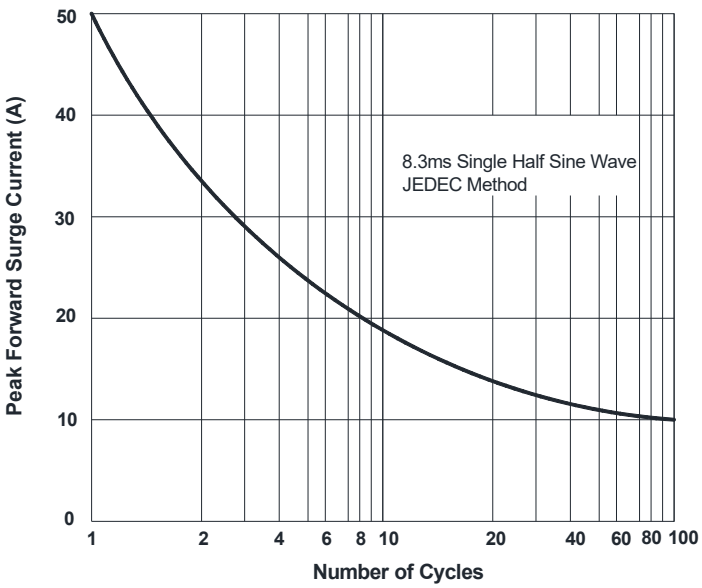


FIG.3: Typical Forward Characteristics

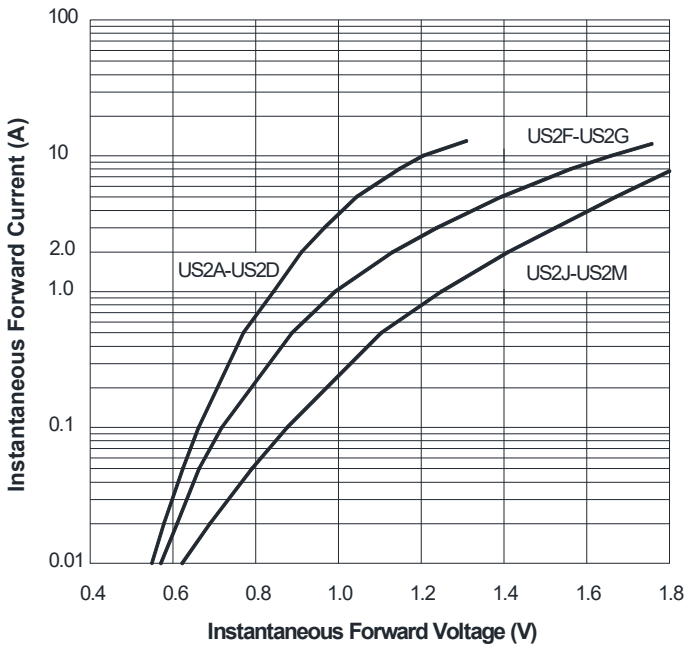


FIG.4: Typical Reverse Characteristics

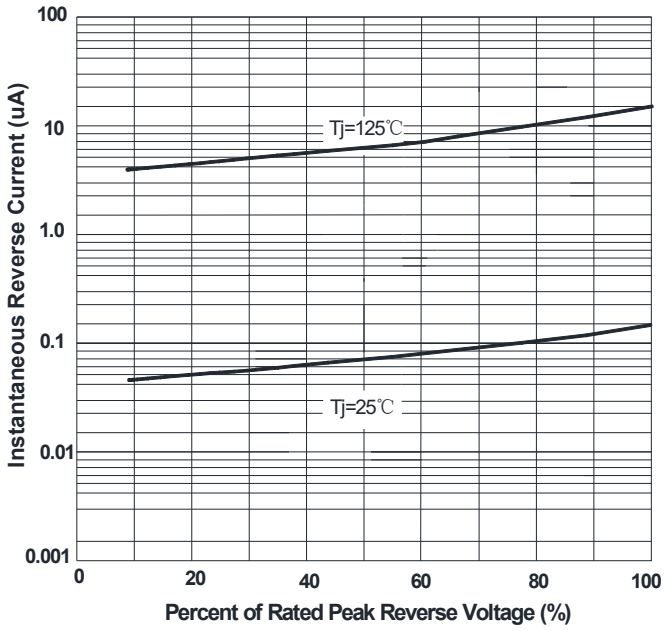
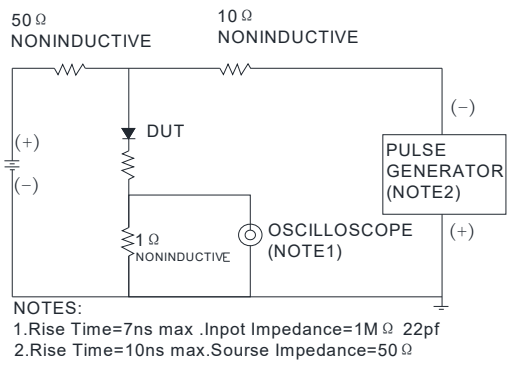
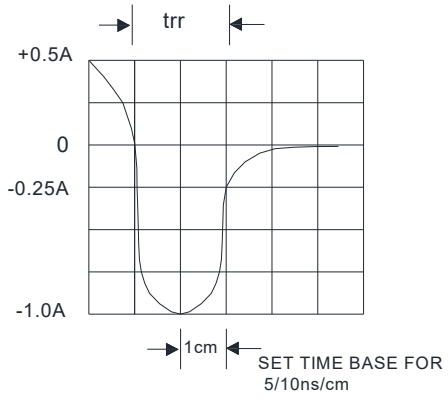


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

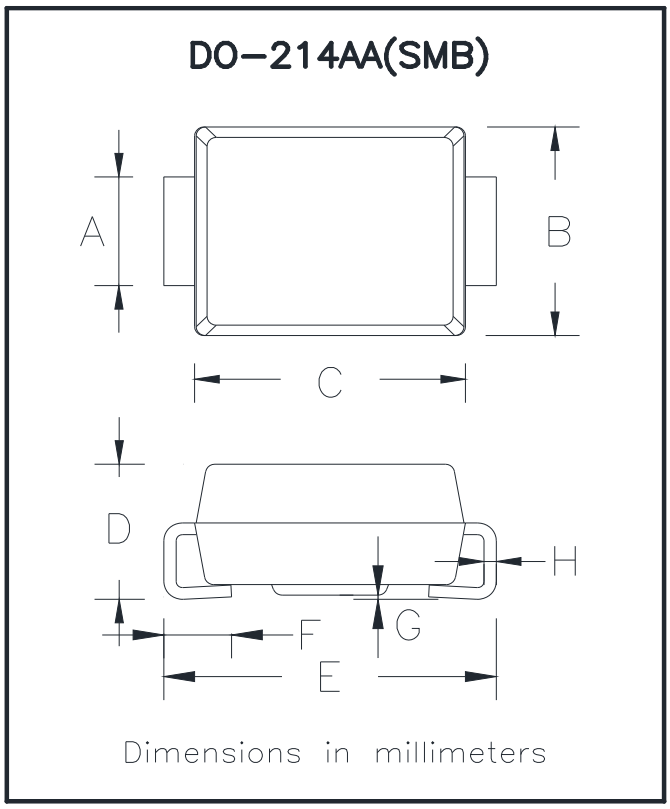




■Ordering Information (Example)

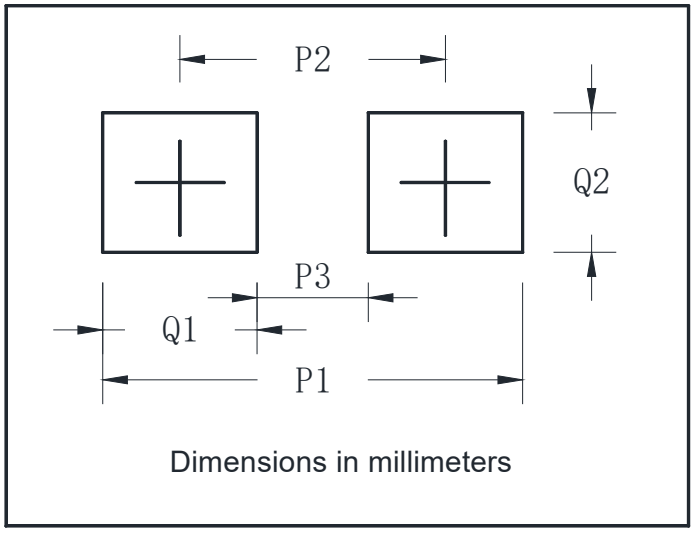
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
US2A-US2M	F1	Approximate 0.096	3000	/	48000	13” reel
US2A-US2M	F2	Approximate 0.096	750	6000	24000	7” reel
US2A-US2M	F3	Approximate 0.096	500	4000	16000	7” reel

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31

■ Suggested pad layout



DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3

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