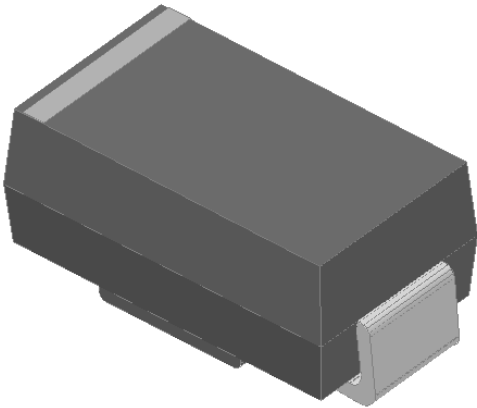


Surface Mount General Purpose Rectifier

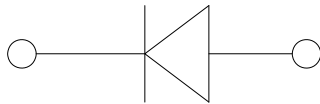


Features

- 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 (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	M1	M2	M3	M4	M5	M6	M7
Device marking code			M1	M2	M3	M4	M5	M6	M7
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V _{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V _{DC}	V	50	100	200	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, T _j =25°C	I _{FSM}	A	30						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			60						
Current squared time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	3.7						
Storage temperature	T _{stg}	°C	-55 ~ +150						
Junction temperature	T _j	°C	-55 ~ +150						

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	M1	M2	M3	M4	M5	M6	M7
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°C	5						
			T _j =125°C	100						
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	6						



M1 THRU M7

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	M1	M2	M3	M4	M5	M6	M7
Typical Thermal Resistance	R _θ J-A(1)	°C/W	75						
	R _θ J-L(1)	°C/W	25						
	R _θ J-C(1)	°C/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)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
M1~M7	F1	Approximate 0.059	5000	/	80000	13" reel
M1~M7	F2	Approximate 0.059	7500	/	120000	13" reel
M1~M7	F3	Approximate 0.059	7500	/	60000	13" reel
M1~M7	F4	Approximate 0.059	1800	14400	57600	7" reel
M1~M7	F5	Approximate 0.059	2000	16000	64000	7" reel
M1~M7	F6	Approximate 0.059	5000	/	100000	13" reel

■ Characteristics (Typical)

FIG.1: I_o-T_L Curve

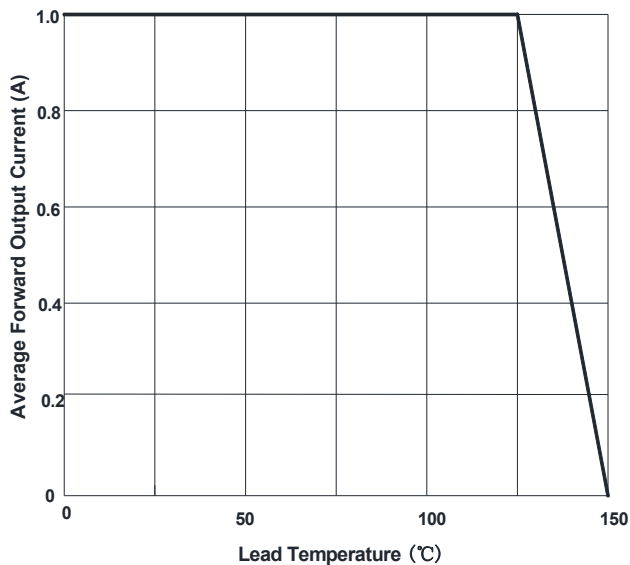
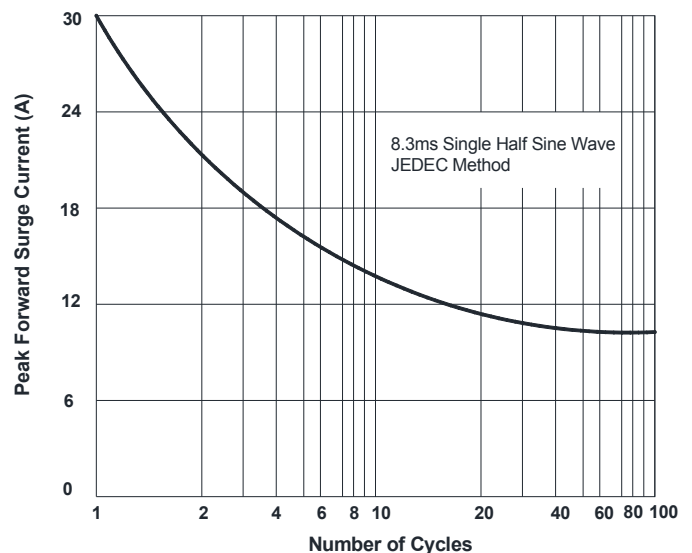


FIG.2: Forward Surge Current Capability





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FIG.3: Typical Forward Voltage

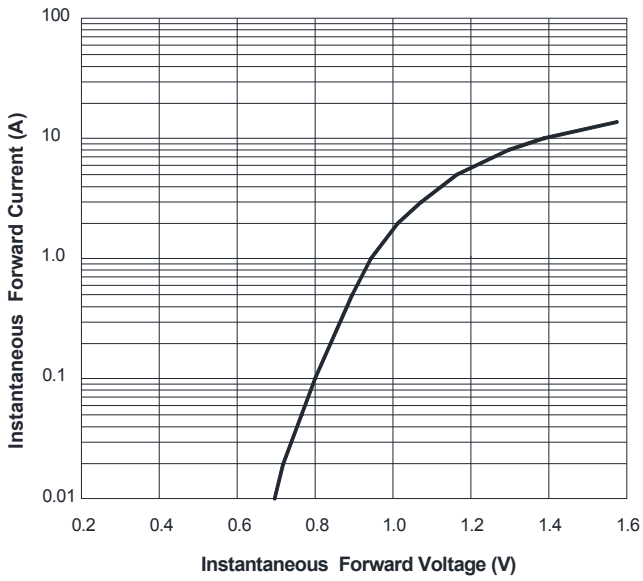
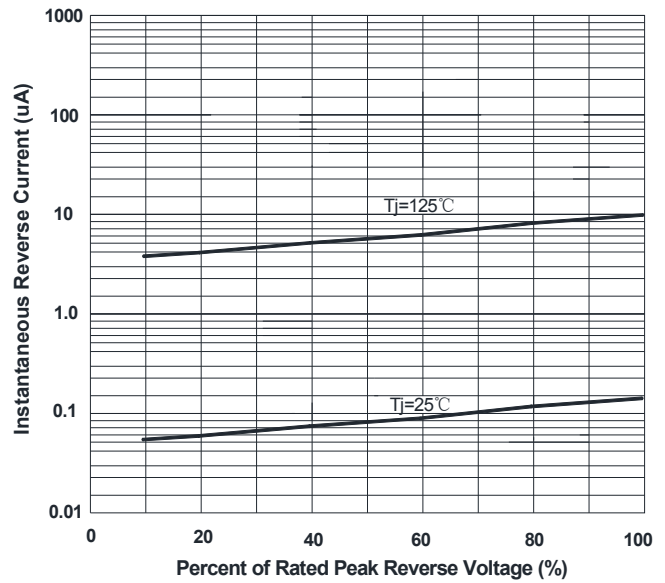
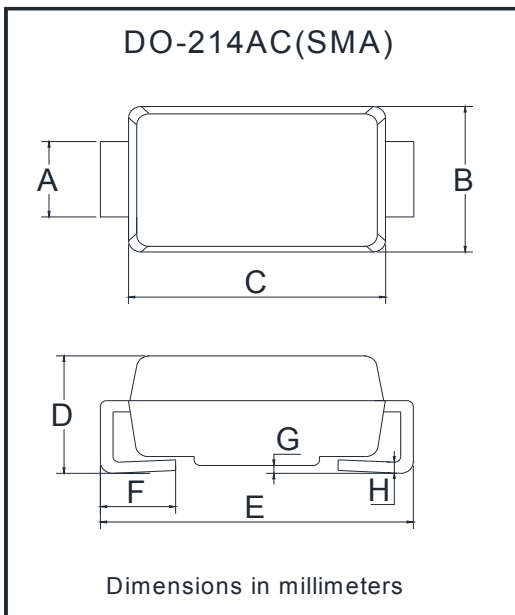


FIG.4: Typical Reverse Characteristics

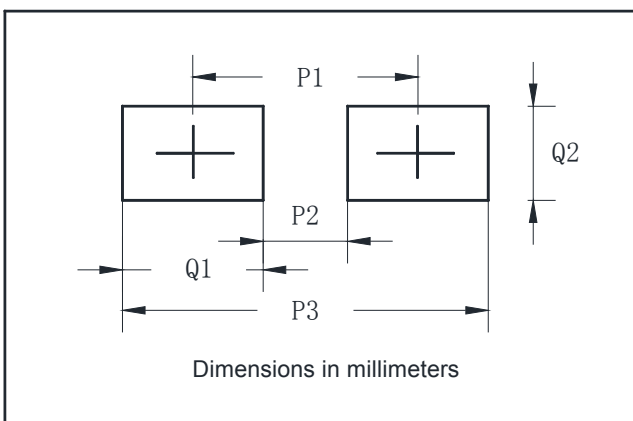


■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.06	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

■ Suggested Pad Layout



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



M1 THRU M7

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