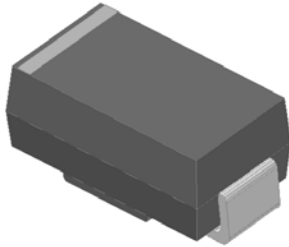


Surface Mount High Efficient Rectifier



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
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, automotive 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 ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS2MAQ
Device marking code			HS2MA
Maximum Repetitive peak reverse voltage	V_{RRM}	V	1000
Average rectified output current @60Hz sine wave, Resistance load, T_L (Fig.1)	I_O	A	2.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	I_{FSM}	A	50
Storage temperature	T_{stg}	$^\circ\text{C}$	-55~+150
Junction temperature	T_J	$^\circ\text{C}$	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS2MAQ
Maximum instantaneous forward voltage drop per diode	V_F	V	$I_{FM}=2.0\text{A}$	1.7
Maximum reverse recovery time	T_{RR}	ns	$I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{tr}=0.25\text{A}$	75
Maximum DC reverse current at rated DC blocking voltage per diode@ $V_{RM}=V_{RRM}$	I_{RRM}	μA	$T_a=25^\circ\text{C}$	5
			$T_a=125^\circ\text{C}$	100
Typical junction capacitance	C_J	pF	$V_R=4\text{V}$, $f=1\text{MHz}$	15



HS2MAQ

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

PARAMETER	SYMBOL	UNIT	HS2MAQ
Typical Thermal Resistance	$R_{\theta J-A}$	$^\circ\text{C/W}$	75 ⁽¹⁾
	$R_{\theta J-L}$	$^\circ\text{C/W}$	28 ⁽¹⁾

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: I_O-T_L Curve

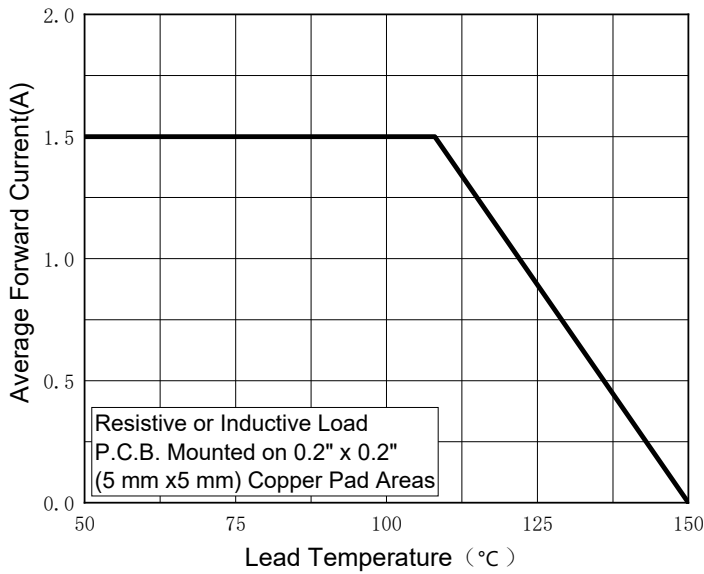


Fig.2: Surge Forward Current Capability

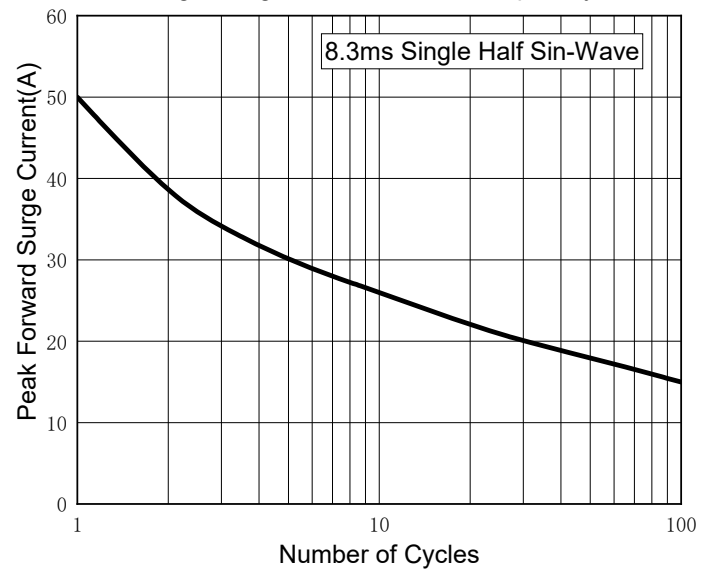


Fig.3: Typical Forward Characteristics

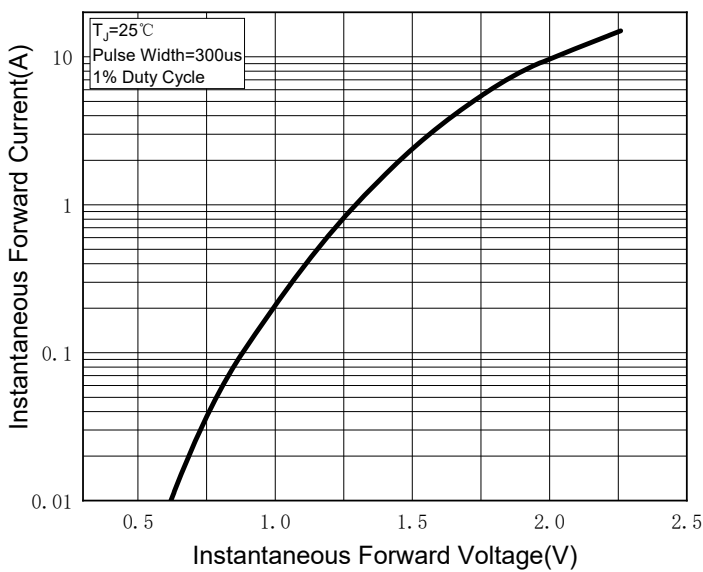


Fig.4: Typical Reverse Characteristics

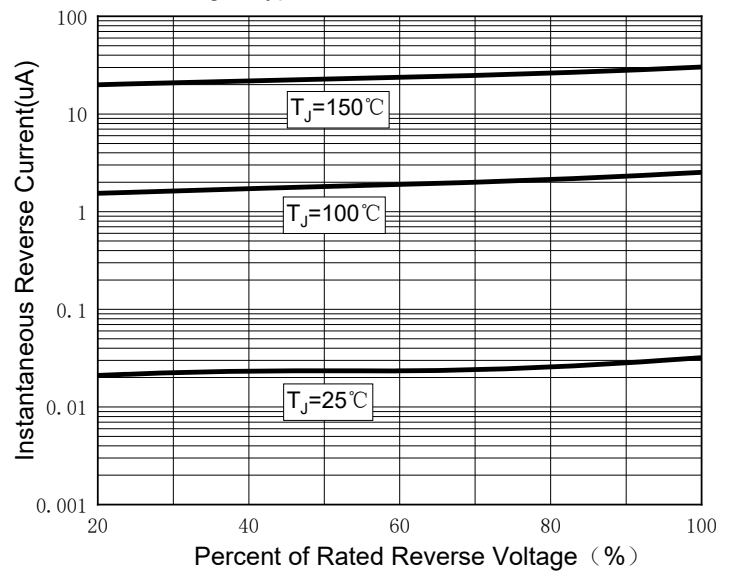
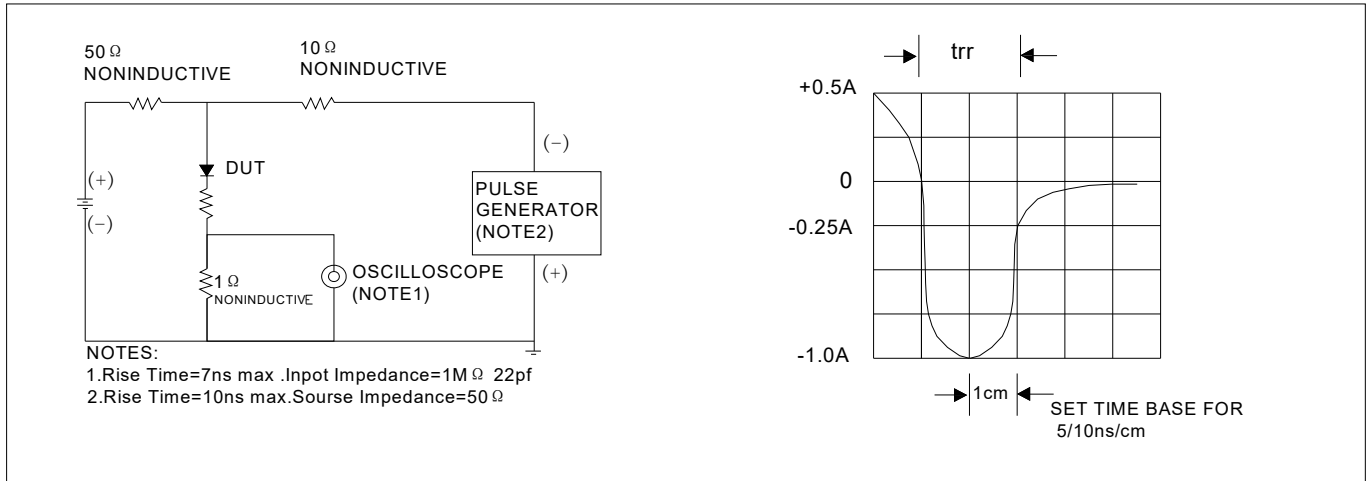


Fig.5: Diagram of circuit and Testing wave form of reverse recovery time

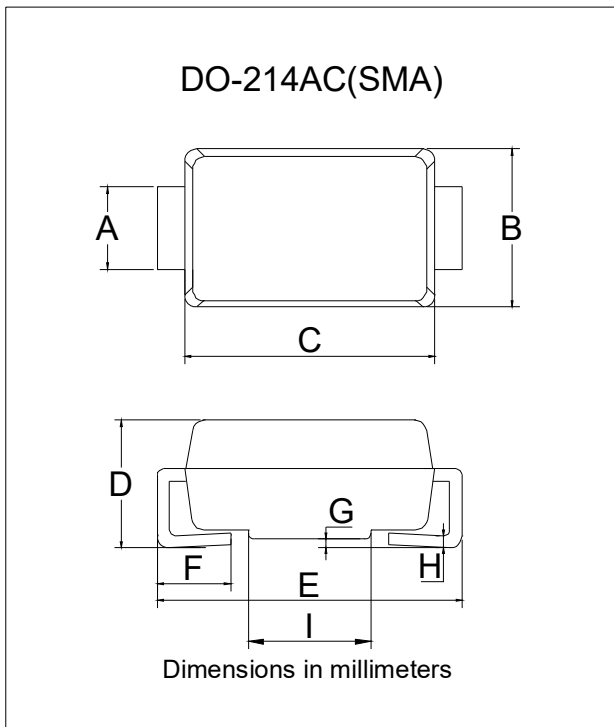


Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS2MAQ	F2	Approximate 0.067	7500	/	120000	13" reel

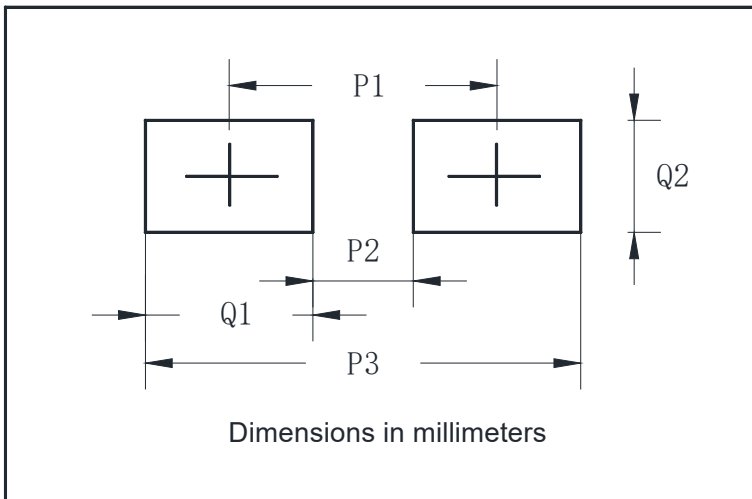


■ Outline Dimensions



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	1.7	2.1

■ Suggested Pad Layout



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



HS2MAQ

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