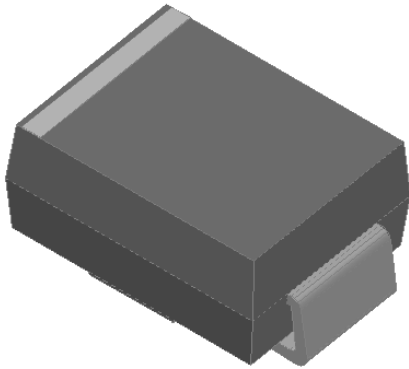


Surface Mount High Efficient Rectifier

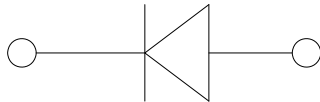


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for high efficiency
- High forward surge capability
- 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-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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS3ABQ	HS3BBQ	HS3DBQ	HS3FBQ	HS3GBQ	HS3JBQ	HS3KBQ	HS3MBQ
Device marking code			HS3AB	HS3BB	HS3DB	HS3FB	HS3GB	HS3JB	HS3KB	HS3MB
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	3.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	I_{FSM}	A	100							
Storage temperature	T_{stg}	°C	-55 ~ +150							
Junction temperature	T_j	°C	-55 ~ +150							



HS3ABQ THRU HS3MBQ

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

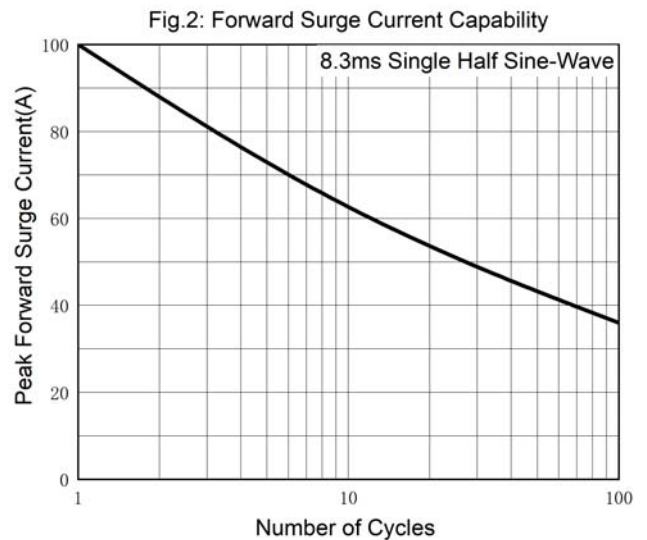
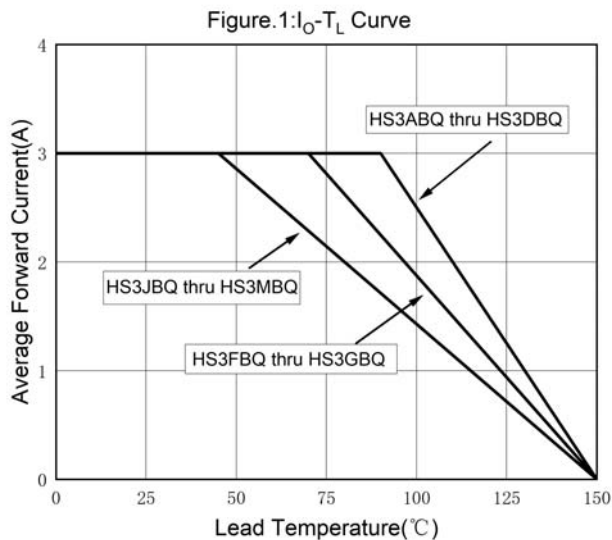
PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS3ABQ	HS3BBQ	HS3DBQ	HS3FBQ	HS3GBQ	HS3JBQ	HS3KBQ	HS3MBQ
Maximum instantaneous forward voltage	V _F	V	I _{FM} =3.0A	1.0			1.3		1.75		
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A, I _R =1.0A, I _{tr} =0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25°C	5							
			T _j =125°C	100							
Typical junction capacitance	C _j	pF	V _R =4V, f=1 MHz	60			40		35		

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

PARAMETER	SYMBOL	UNIT	HS3ABQ	HS3BBQ	HS3DBQ	HS3FBQ	HS3GBQ	HS3JBQ	HS3KBQ	HS3MBQ
Typical Thermal resistance	R _{θJA} ⁽¹⁾	°C/W	72							
	R _{θJL} ⁽¹⁾		20							

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)





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Fig.3: Typical Instantaneous Forward Characteristics

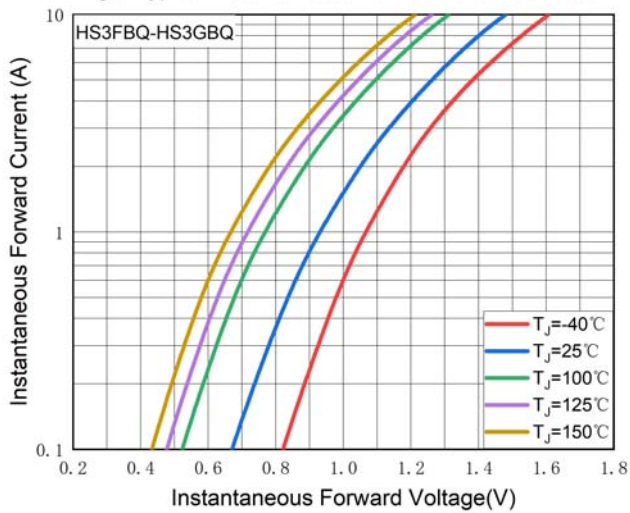


Fig.4: Typical Reverse Leakage Characteristics

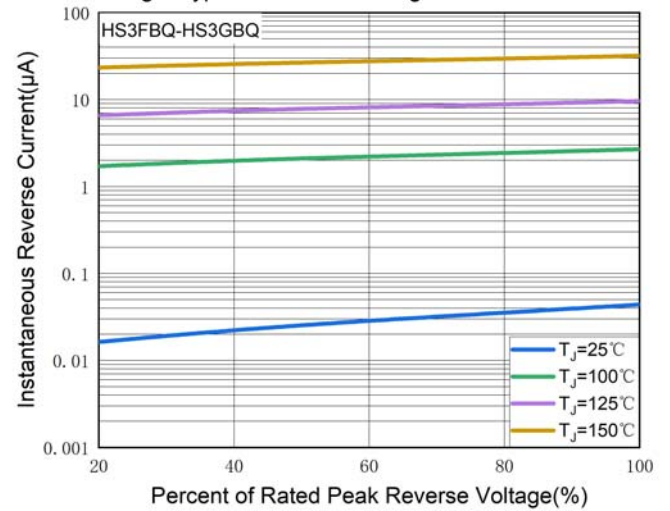


Fig.5: Typical Instantaneous Forward Characteristics

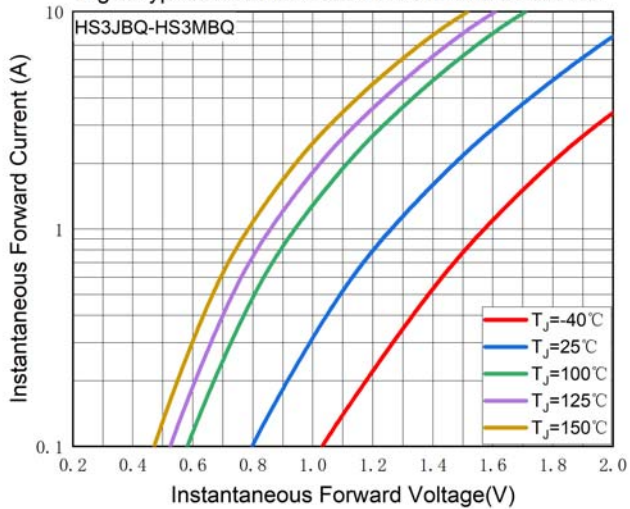


Fig.6: Typical Reverse Leakage Characteristics

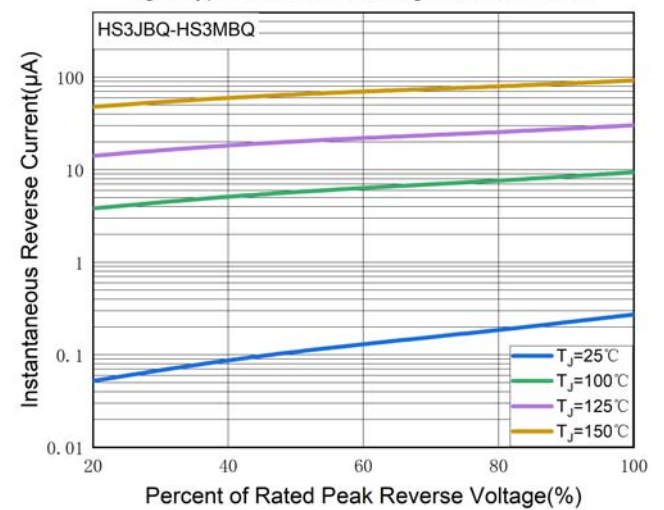
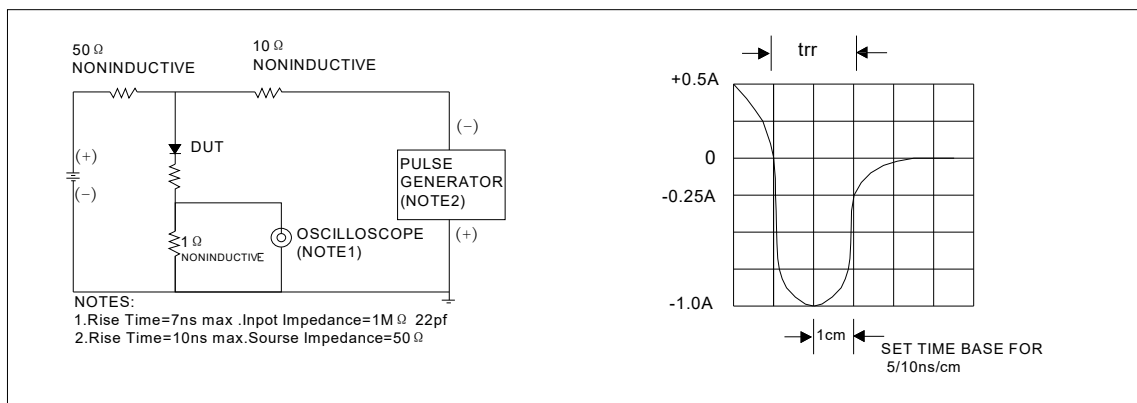


FIG.7: Diagram of circuit and Testing wave form of reverse recovery time



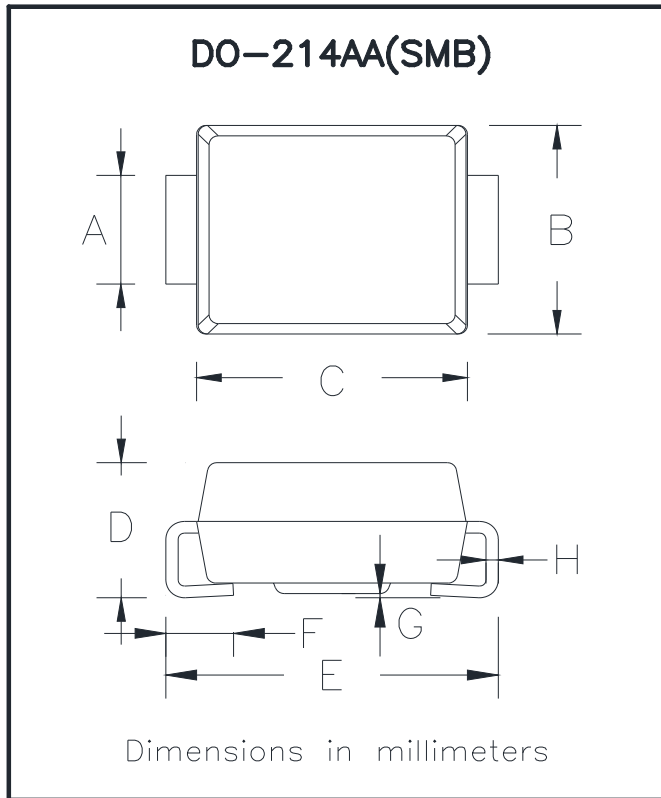


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■ Ordering Information (Example)

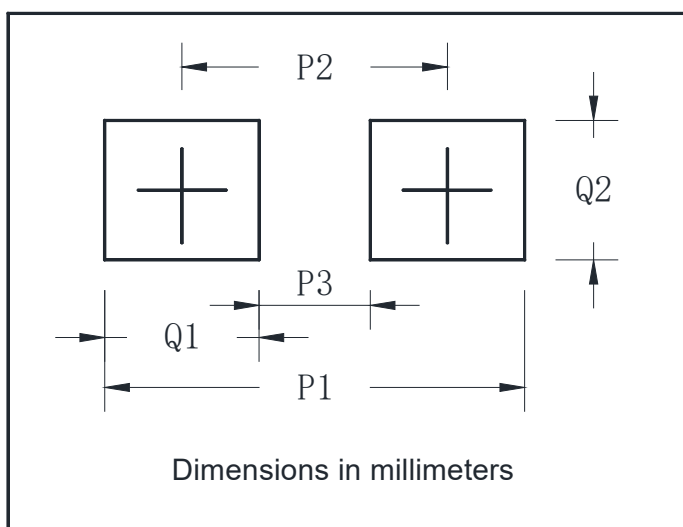
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS3ABQ-HS3MBQ	F1	Approximate 0.1003	3000	48000	13" reel

■ 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

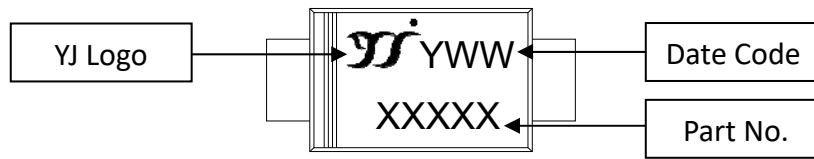


DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3



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■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXXX is marking code, like HS3MAQ marking code is HS3MA.
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2024, date code is 417

The 17th week of 2025, date code is 517



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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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