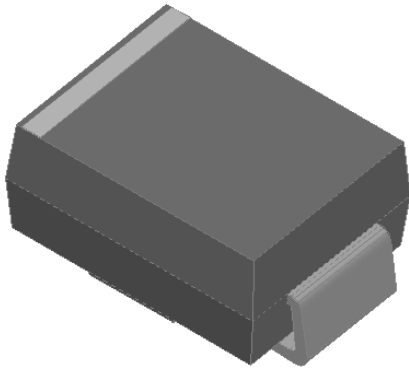




HS2AQ THRU HS2MQ

Surface Mount High Efficient Rectifier

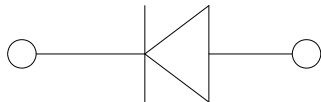


Features

- 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-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 (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS2AQ	HS2BQ	HS2DQ	HS2FQ	HS2GQ	HS2JQ	HS2KQ	HS2MQ
Device marking code			HS2A	HS2B	HS2D	HS2F	HS2G	HS2J	HS2K	HS2M
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, T _j =25°C	I _{FSM}	A	50							
Current squared time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	10.375							
Storage temperature	T _{stg}	°C	-55 ~ +150							
Junction temperature	T _j	°C	-55 ~ +150							



HS2AQ THRU HS2MQ

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

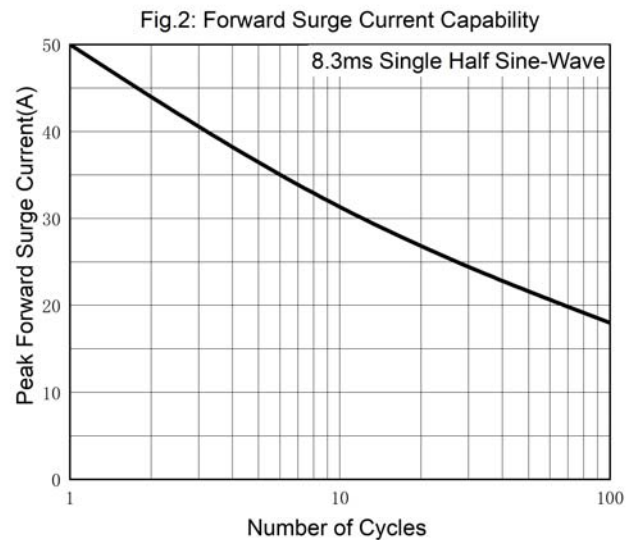
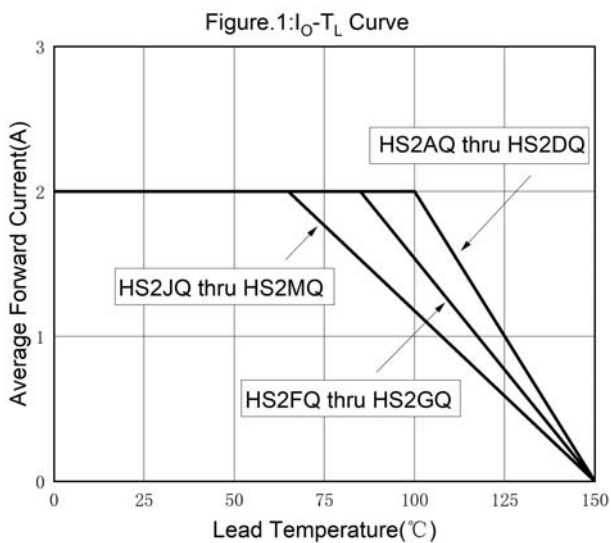
PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS2AQ	HS2BQ	HS2DQ	HS2FQ	HS2GQ	HS2JQ	HS2KQ	HS2MQ
Maximum instantaneous forward voltage	V _F	V	I _{FM} =2.0A	1.0			1.3		1.7		
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25°C	5.0							
			T _j =125°C	100							
Typical junction capacitance	C _j	pF	V _R =4V, f=1 MHz	40			28		15		

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

PARAMETER	SYMBOL	UNIT	HS2AQ	HS2BQ	HS2DQ	HS2FQ	HS2GQ	HS2JQ	HS2KQ	HS2MQ
Typical Thermal Resistance	R _{θJ-A}	°C/W	80 ⁽¹⁾							
	R _{θJ-L}		25 ⁽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)





HS2AQ THRU HS2MQ

Fig.3: Typical Instantaneous Forward Characteristics

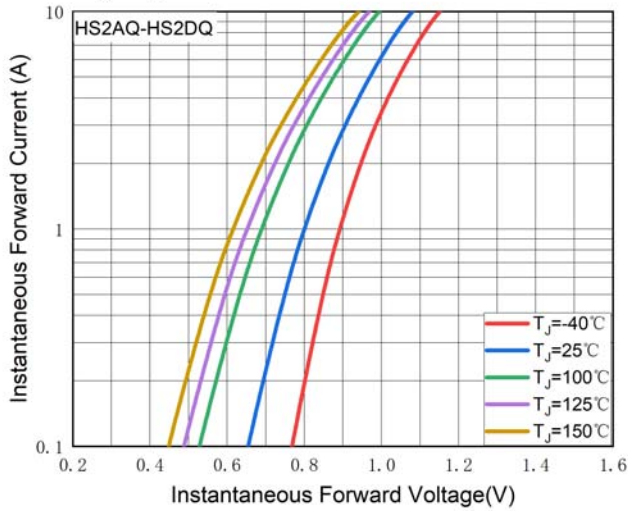


Fig.4: Typical Reverse Leakage Characteristics

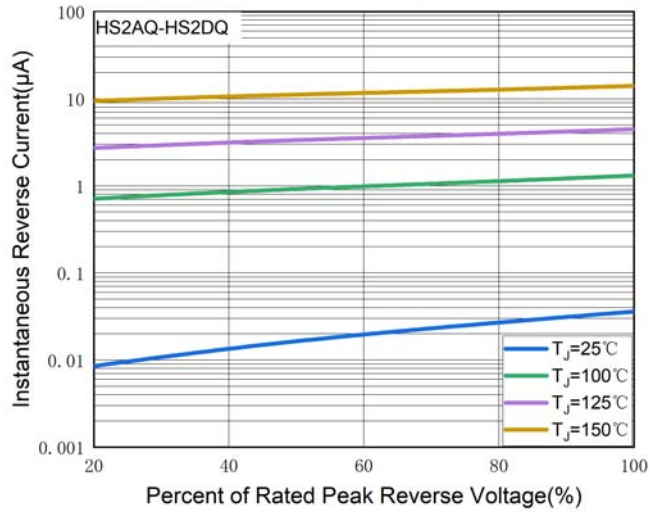


Fig.5: Typical Instantaneous Forward Characteristics

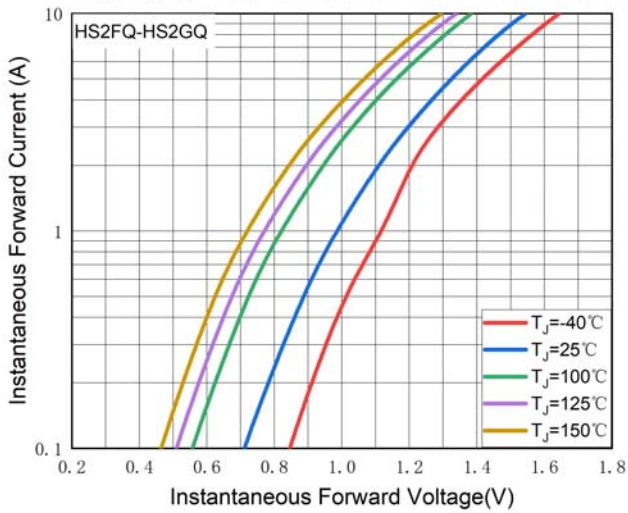


Fig.6: Typical Reverse Leakage Characteristics

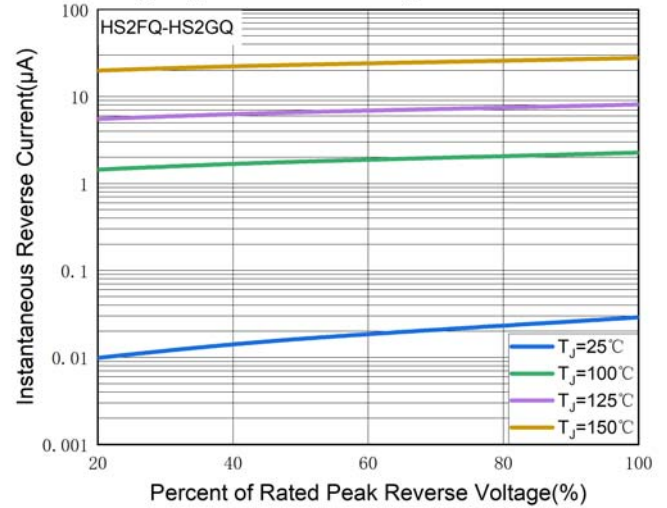


Fig.7: Typical Instantaneous Forward Characteristics

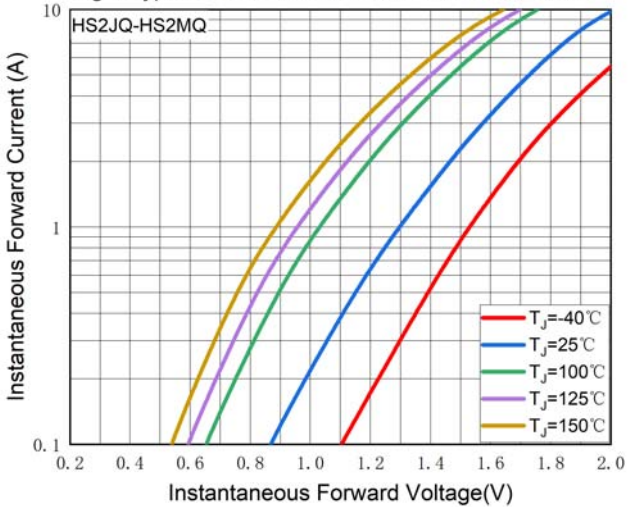
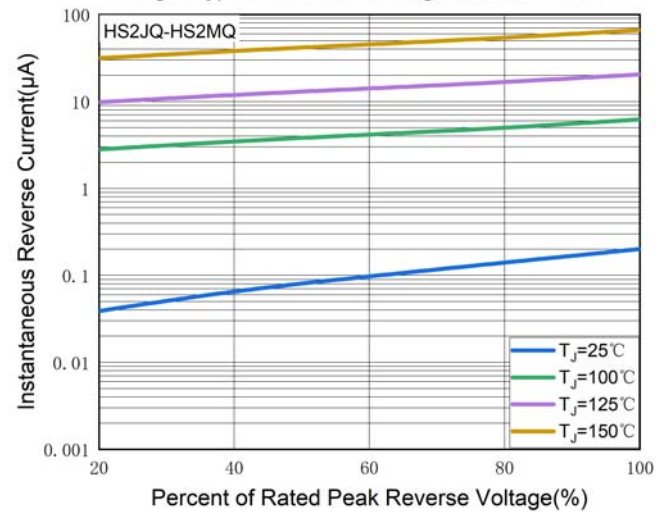


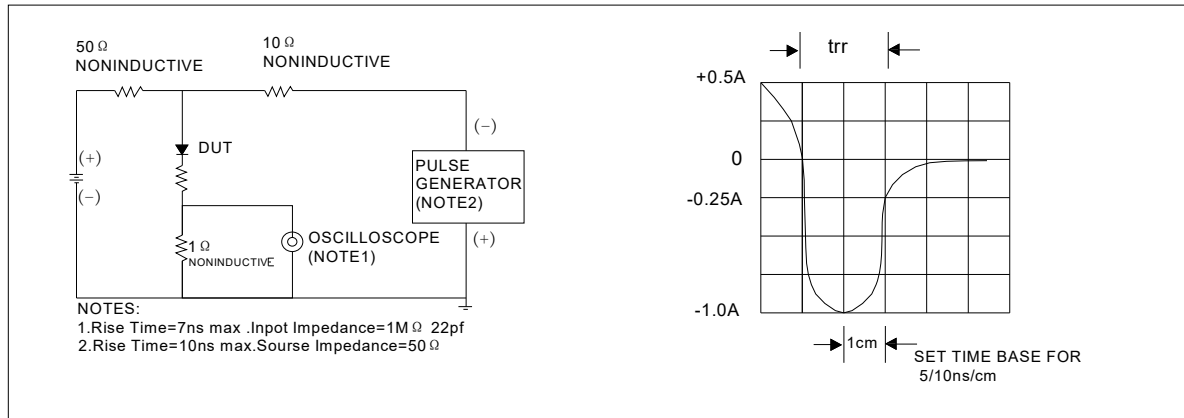
Fig.8: Typical Reverse Leakage Characteristics





HS2AQ THRU HS2MQ

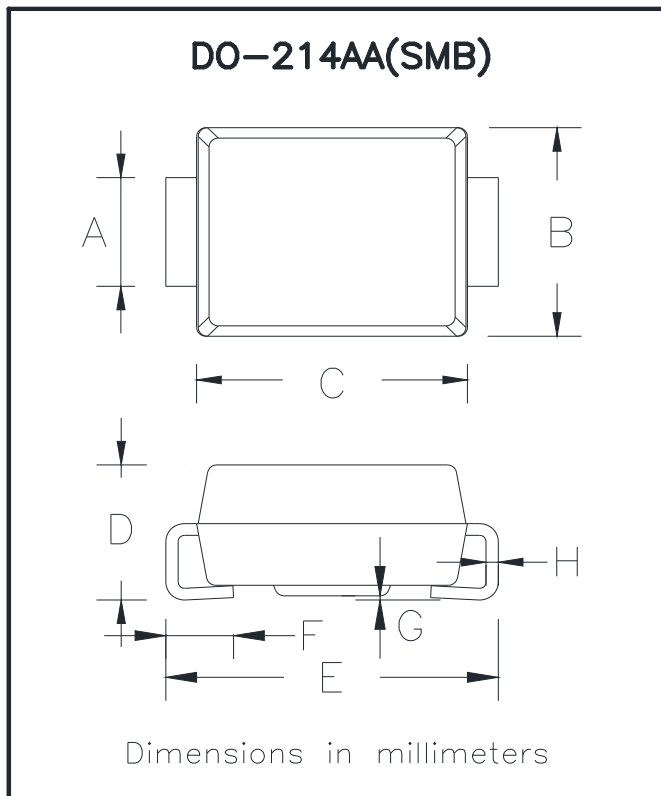
Fig.9: Diagram of circuit and Testing wave form of reverse recovery time



■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS2AQ-HS2MQ	F1	Approximate 0.1003	3000	48000	13" reel

■ Outline Dimensions

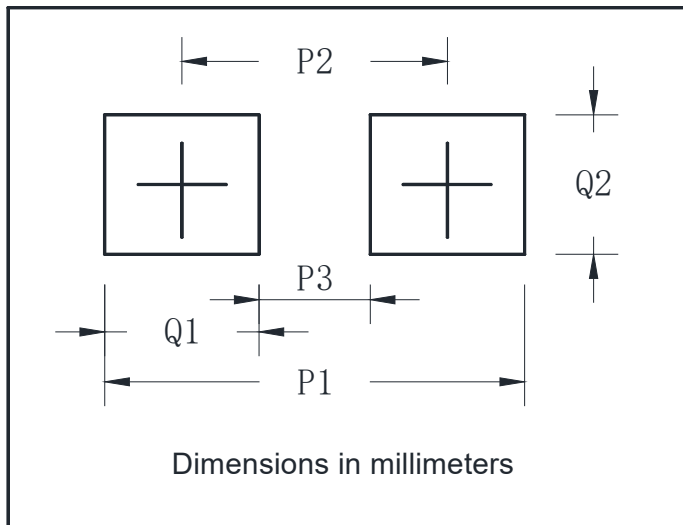


DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31



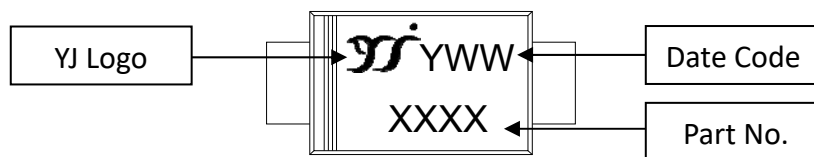
HS2AQ THRU HS2MQ

■ Suggested pad layout



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

■ 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 HS2MQ marking code is HS2M.
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2019, date code is 917

The 17th week of 2020, date code is 017



HS2AQ THRU HS2MQ

Disclaimer

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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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