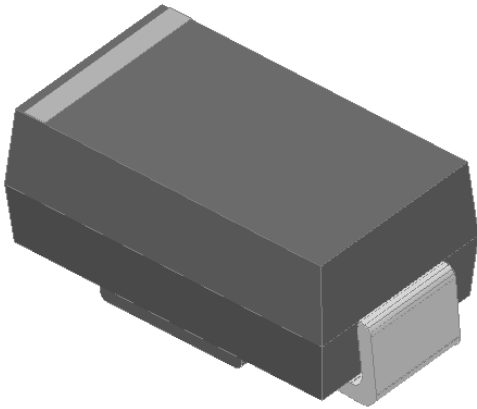


Surface Mount High Efficient Rectifier

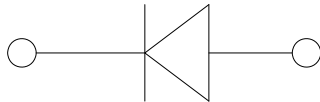


Features

- 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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS2AAQ	HS2BAQ	HS2DAQ	HS2FAQ	HS2GAQ	HS2JAQ	HS2KAQ
Device marking code			HS2AA	HS2BA	HS2DA	HS2FA	HS2GA	HS2JA	HS2KA
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	200	300	400	600	800
Maximum RMS Voltage	V _{RMS}	V	35	70	140	210	280	420	560
Maximum DC blocking Voltage	V _{DC}	V	50	100	200	300	400	600	800
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						
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	HS2AAQ	HS2BAQ	HS2DAQ	HS2FAQ	HS2GAQ	HS2JAQ	HS2KAQ
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						
			T _j =125°C	100						
Typical junction capacitance	C _j	pF	V _R =4V, f=1 MHz	40			28		15	



HS2AAQ THRU HS2KAQ

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

PARAMETER	SYMBOL	UNIT	HS2AAQ	HS2BAQ	HS2DAQ	HS2FAQ	HS2GAQ	HS2JAQ	HS2KAQ
Typical Thermal Resistance	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	80 ¹⁾						
	$R_{\theta J-L}$		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)

Figure.1: I_O - T_L Curve

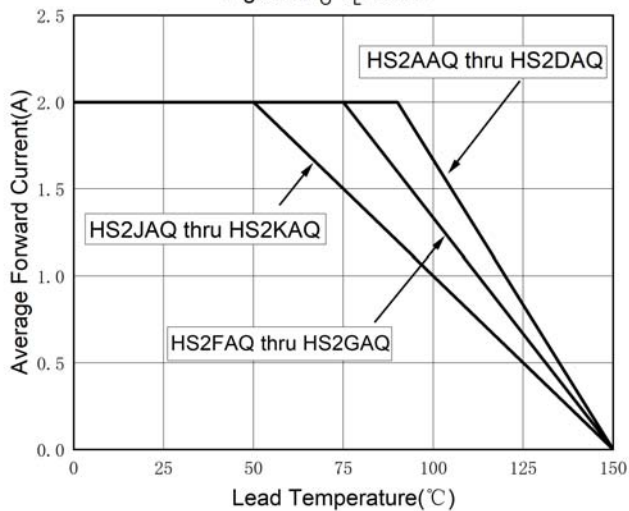


Fig.2: Forward Surge Current Capability

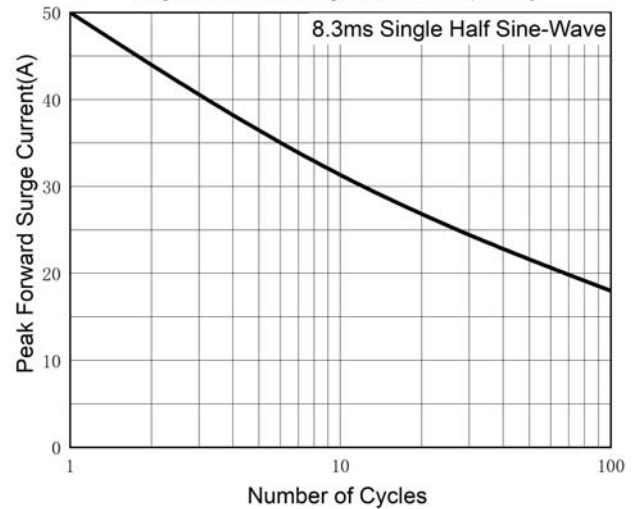


Fig.3: Typical Instantaneous Forward Characteristics

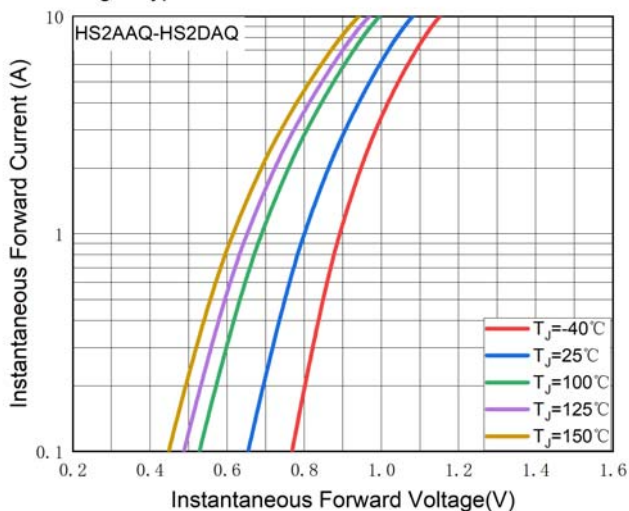
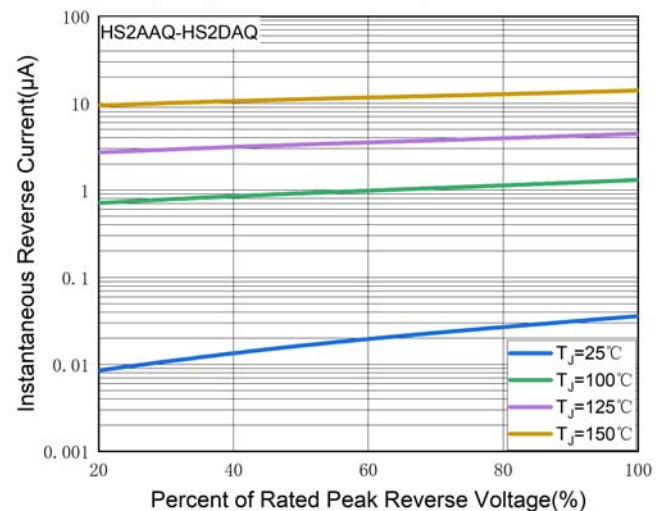


Fig.4: Typical Reverse Leakage Characteristics





HS2AAQ THRU HS2KAQ

Fig.5: Typical Instantaneous Forward Characteristics

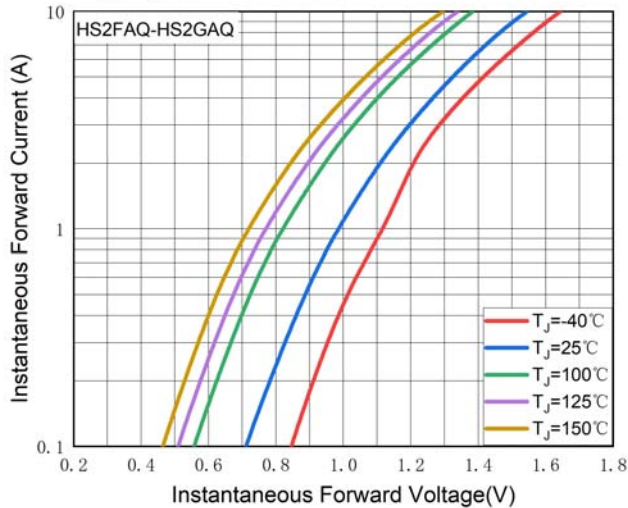


Fig.6: Typical Reverse Leakage Characteristics

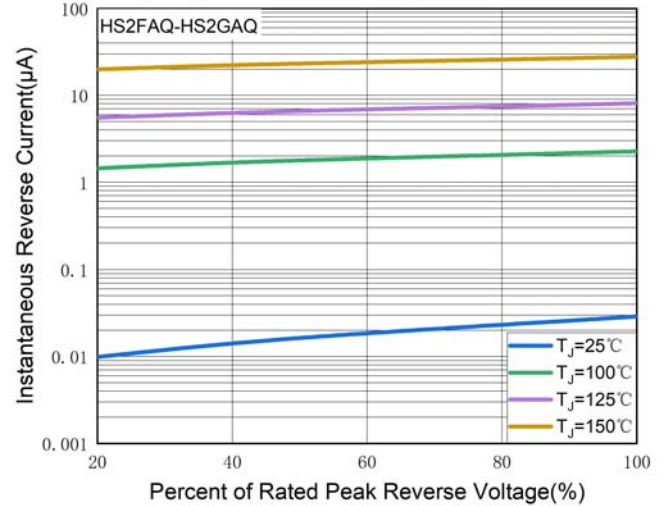


Fig.7: Typical Instantaneous Forward Characteristics

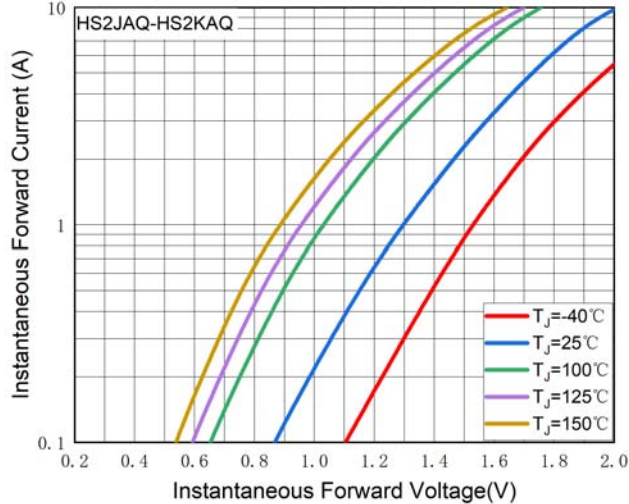


Fig.8: Typical Reverse Leakage Characteristics

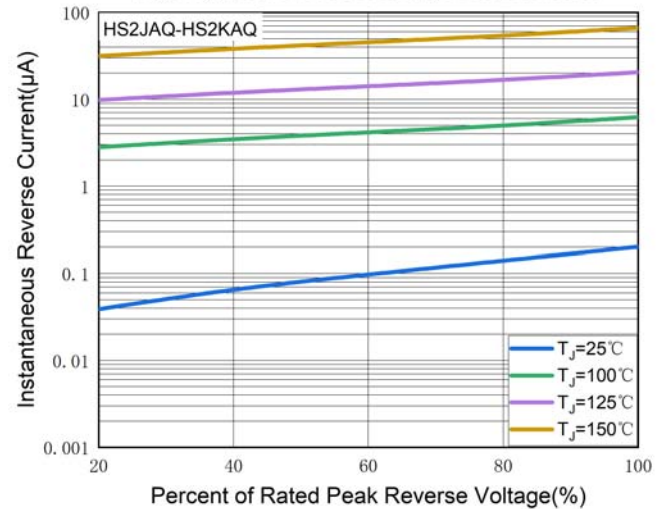
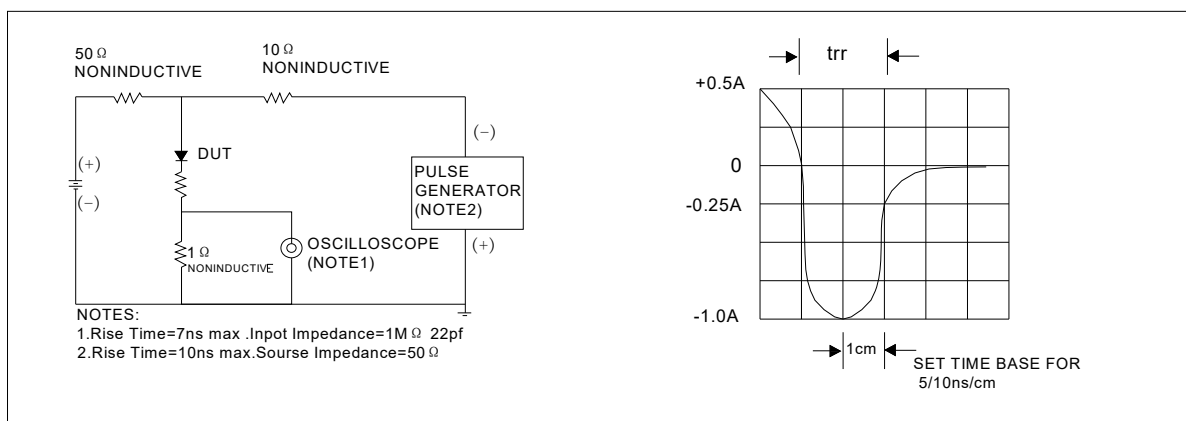


Fig.9: Diagram of circuit and Testing wave form of reverse recovery time



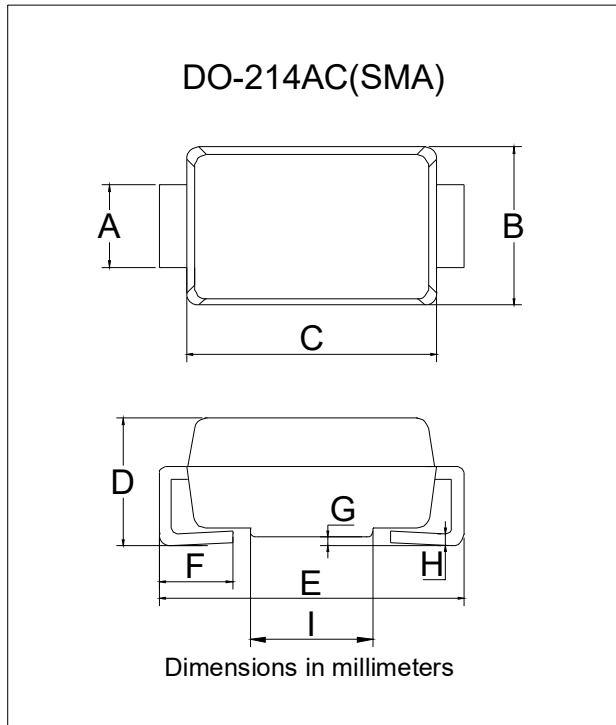


HS2AAQ THRU HS2KAQ

■ Ordering Information (Example)

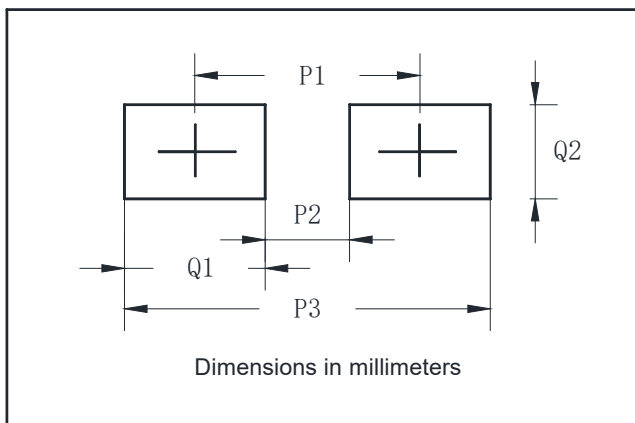
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS2AAQ- HS2KAQ	F2	Approximate 0.067	7500	120000	13" reel

■ 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

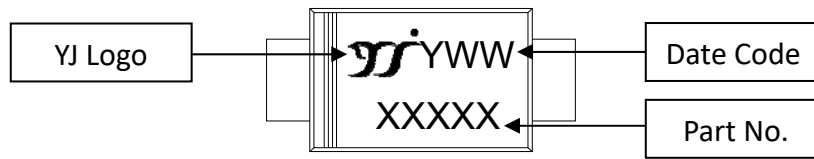


DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



HS2AAQ THRU HS2KAQ

■ 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 HS2KAQ marking code is HS2KA.
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



HS2AAQ THRU HS2KAQ

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