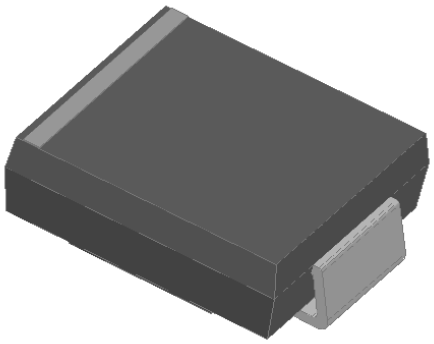
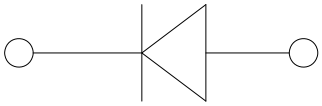
Surface Mount High Efficient Rectifier





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 efficient switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer automotive and telecommunication.

Mechanical Data

- **Package:** DO-214AB (SMC)
  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℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	HS3AQ	HS3BQ	HS3DQ	HS3FQ	HS3GQ	HS3JQ	HS3KQ	HS3MQ
Device marking code			HS3A	HS3B	HS3D	HS3F	HS3G	HS3J	HS3K	HS3M
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 Half-sine wave, Resistance load, T_L (Fig.1)	I_O	A	3.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, T_j=25℃	I_{FSM}	A	100							
Storage temperature	T_{stg}	℃	-55 ~ +150							
Junction temperature	T_j	℃	-55 ~ +150							

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	HS3AQ	HS3BQ	HS3DQ	HS3FQ	HS3GQ	HS3JQ	HS3KQ	HS3MQ
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_{rr}=0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	T_j =25℃	5							
			T_j =125℃	100							
Typical junction capacitance	C_j	pF	V_R=4V, f=1 MHz	60			40		35		

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	HS3AQ	HS3BQ	HS3DQ	HS3FQ	HS3GQ	HS3JQ	HS3KQ	HS3MQ
Typical Thermal resistance	$R_{\theta J\text{-}A}$(1)	℃/W	70							
	$R_{\theta J\text{-}L}$(1)		20							

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 8 mm x 8 mm copper pad areas.

■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
HS3AQ~HS3MQ	F1	Approximate 0.253	3000	/	42000	13” reel

■ Characteristics(Typical)

Figure.1:I_O-T_L Curve

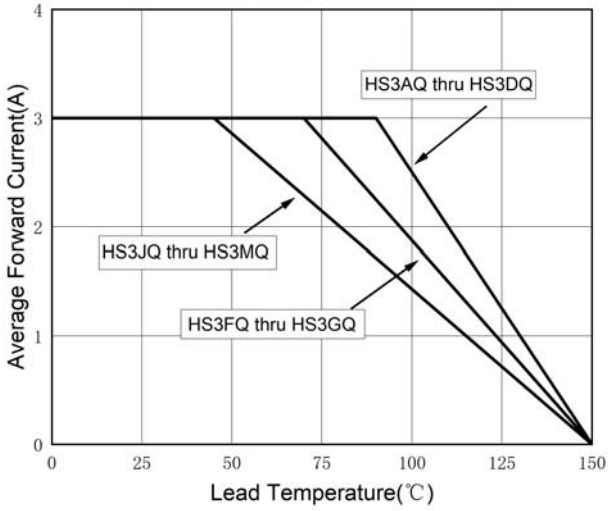


Fig.2: Forward Surge Current Capability

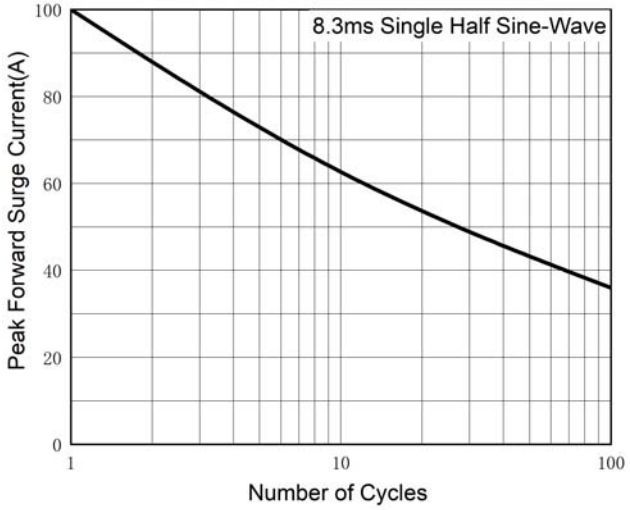


Fig.3:Typical Instantaneous Forward Characteristics

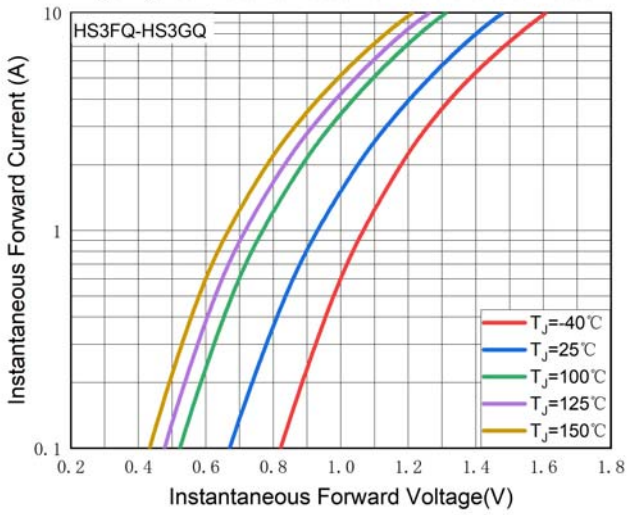


Fig.4:Typical Reverse Leakage Characteristics

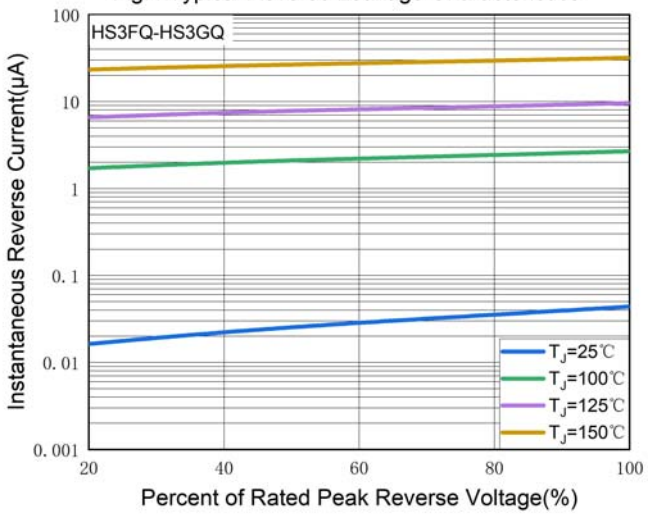


Fig.5:Typical Instantaneous Forward Characteristics

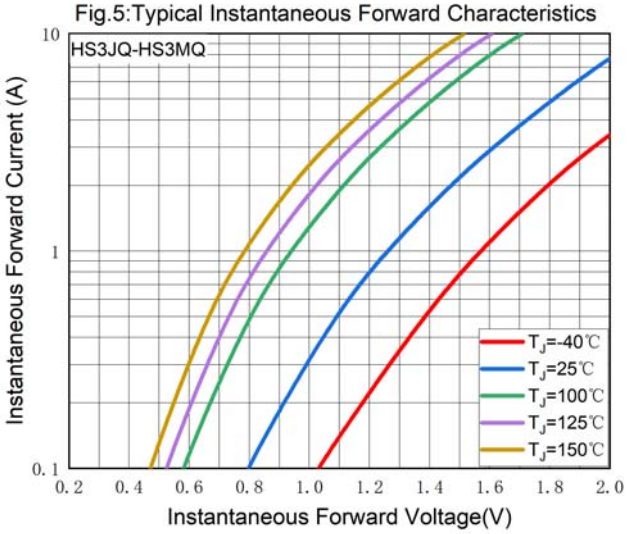


Fig.6:Typical Reverse Leakage Characteristics

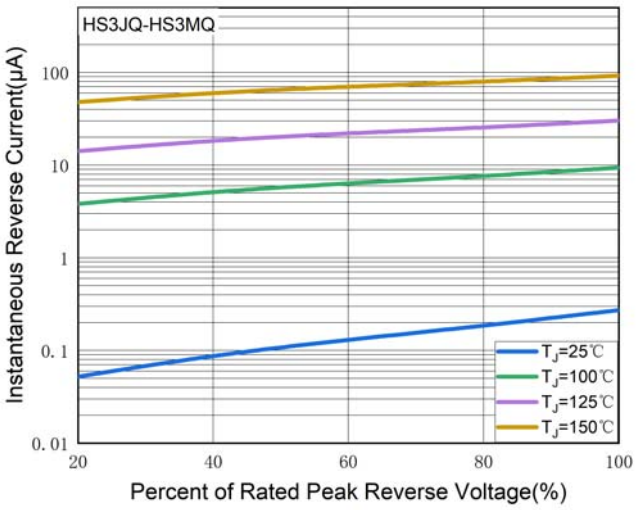
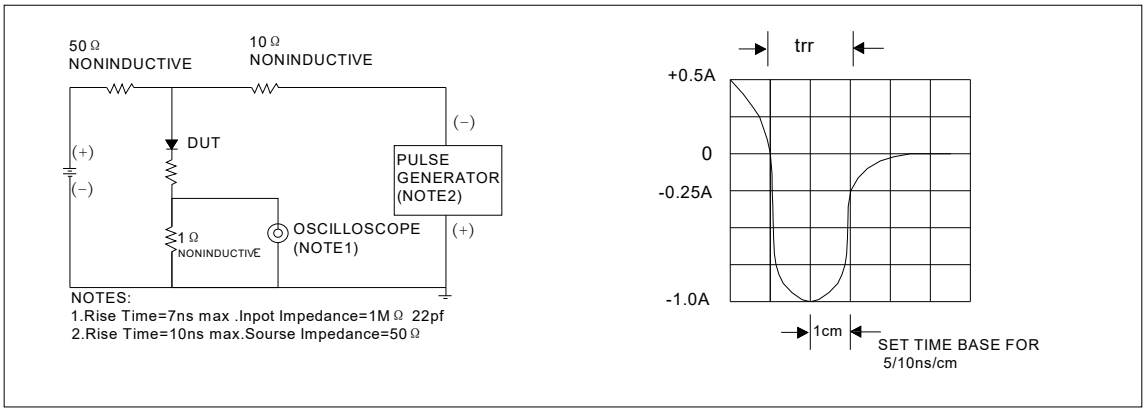
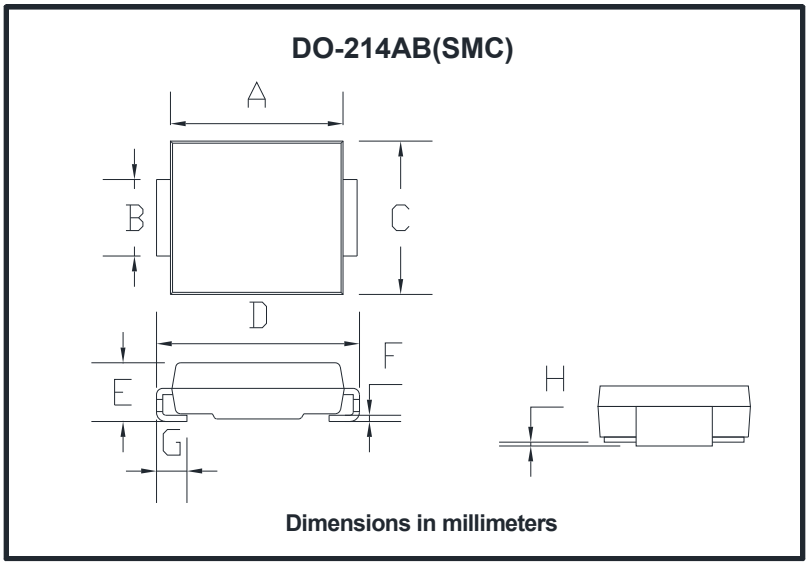


FIG.7: Diagram of circuit and Testing wave form of reverse recovery time

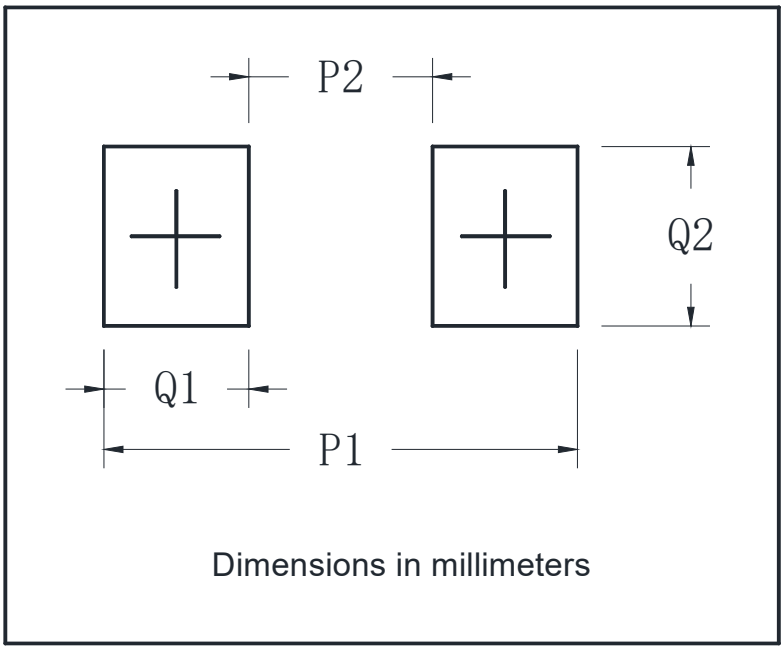


■ Outline Dimensions



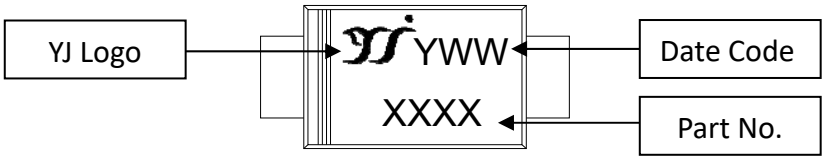
DO-214AB (SMC)		
Dim	Min	Max
A	6.60	7.11
B	2.85	3.27
C	5.59	6.22
D	7.75	8.13
E	1.99	2.61
F	0.15	0.31
G	0.76	1.52
H	0.05	0.20

■ Suggested pad layout



DO-214AB (SMC)	
Dim	Min
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82

■ 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 HS3MQ marking code is HS3M.
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

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

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 with 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.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website http:// www.21yangjie.com , or consult your nearest Yangjie's sales office for further assistance.