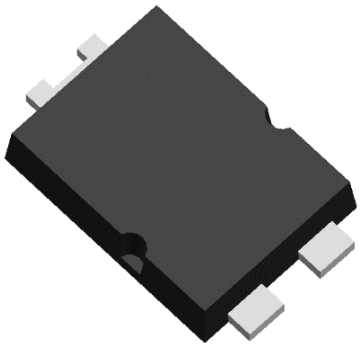
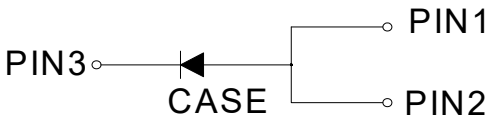
Schottky Rectifier





Features

- Ideal for automated placement
- Low power losses
- High forward surge capability
- Meets MSL level1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix “Q” means AEC-Q101 qualified

Typical Applications

For use in lighting, fast switching rectification of power suppliers, DC/AC inverters, DC/DC converters, and freewheeling diodes for polarity protection application for consumer, automotive and telecommunication.

Mechanical Data

- **Package**:TO-277
  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

■Maximum Ratings (T_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SS10U100PQ
Device marking code			SS10U100P
Repetitive Peak Reverse Voltage	V_{RRM}	V	100
Average Rectified Output Current @60Hz -sine wave	I_O	A	10
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Ta=25℃	I_{FSM}	A	200
Current Squared Time @1ms≤t≤8.3ms T_J=25℃	I^2t	A^2s	166
Non-repetitive avalanche energy at I_{AS}=2.0 A, T_J = 25℃	E_{AS}	mJ	20
Storage Temperature	T_{stg}	℃	-55 ~+175
Junction Temperature	T_J	℃	-55 ~+175

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Typ	Max
Instantaneous forward voltage	V_F	V	I_F=5A	T_A=25℃	0.725	-
			I_F=10A		0.770	0.85
			I_F=5A	T_A=125℃	0.585	-
			I_F=10A		0.655	0.74
Typical junction capacitance	C_J	pF	V_R=4V, f=1 MHz		270	-
Reverse recovery time	T_{RR}	ns	I_F=0.5A,I_R=0.5A,Irr=0.1A		25	-
Leakage Current	I_R	μA	V_R=100V	T_A=25℃	0.3	10
		mA		T_A=125℃	0.1	3

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

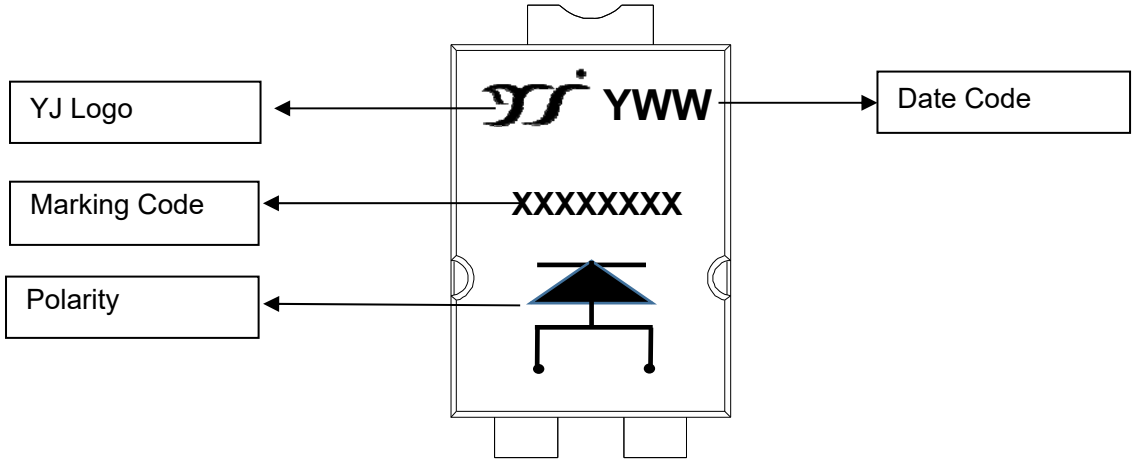
PARAMETER	SYMBOL	UNIT	SS10U100PQ
Typical Thermal Resistance	$R_{\theta J-A}$	℃/W	65
	$R_{\theta J-A}$	℃/W	100(2)
	$R_{\theta J-C}$	℃/W	8(1)
	$R_{\theta J-L}$	℃/W	3

Note
(1) Thermal resistance from junction to case mounted on P.C.B. with 16mm*16mm copper pad areas
(2) Thermal resistance from junction to ambient mounted on P.C.B. with 10mm*10mm copper pad areas

■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS10U100PQ	F1	Approximate 0.106	5000	80000	13” reel

■ Marking Information



Note:
1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXXXXX is marking code, like SS10U100P
4. Body color: Black
5. YWW is date code, “Y” is year. “WW” is week.
For instance: The 15th week of 2019, date code is 915

■ **Characteristics** (Typical)

Fig.1:Maximum Forward Current Derating Curve

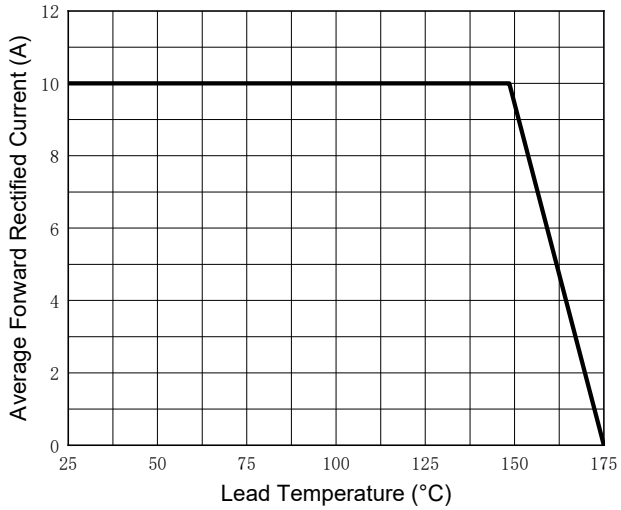


Fig.2:Forward Surge Current Capability

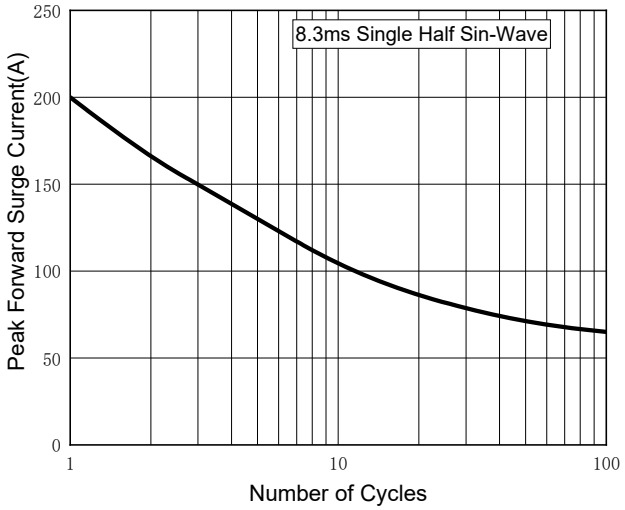


Fig.3:Typical Instantaneous Forward Characteristics

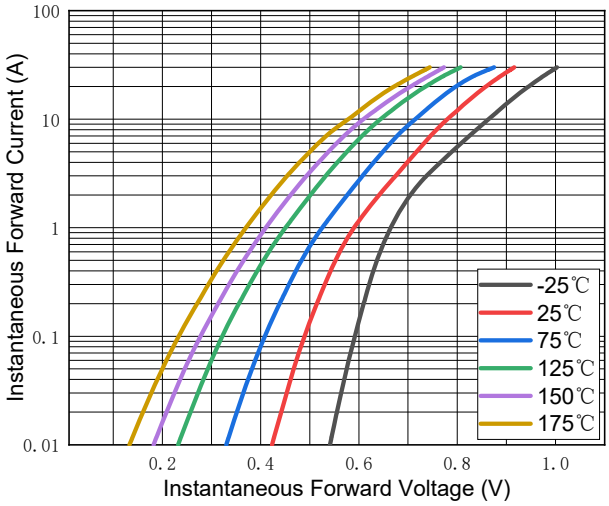
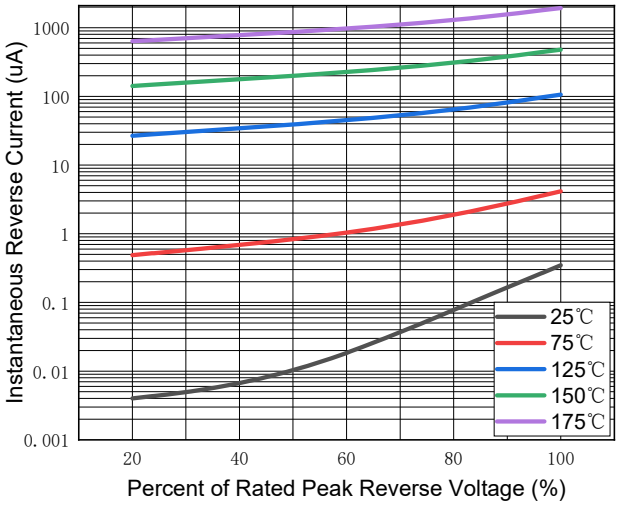
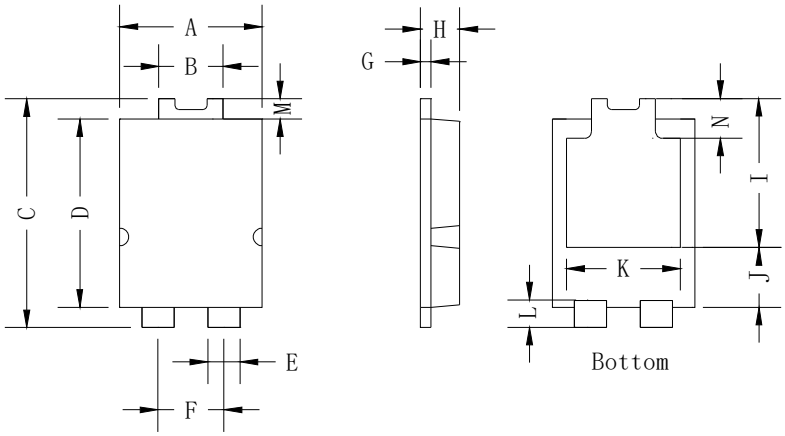


Fig.4:Typical Reverse Characteristics

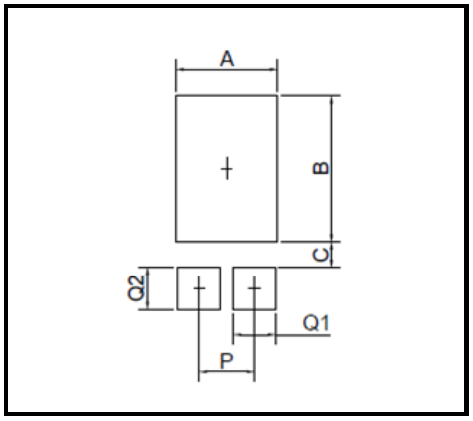


■ Outline Dimensions



DIM	mm	
	MIN.	MAX.
A	3.90	4.10
B	1.70	1.90
C	6.40	6.60
D	5.30	5.50
E	0.80	1.00
F	1.85 ref.	
G	0.35	0.45
H	1.10	1.20
I	4.10	4.50
J	1.50	1.90
K	2.90	3.40
L	0.55	0.75
M	0.50 ref.	
N	1.15 ref.	

■ Suggested pad layout



DIM	MIN.(mm)
A	3.36
B	4.86
C	0.85
P	1.84
Q1	1.40
Q2	1.40

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