JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

TO-277 Plastic-Encapsulate Diodes

ST5100L Schottky Rectifier Diode

Features

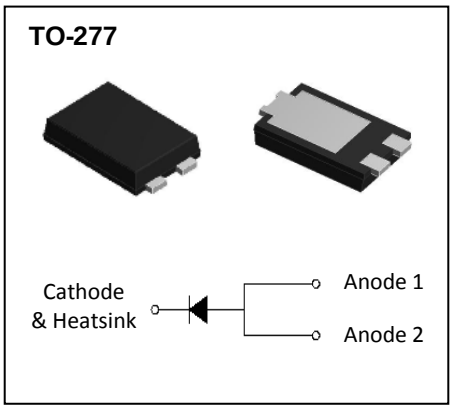
- $I_{F(AV)}$ 5A
- V_{RRM} 100 V
- High surge current capability
- Low peak foward voltage

Applications

- Rectifier

Marking

- ST5100L:ST5100L



Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ST5100L
Repetitive Peak Reverse Voltage	V_{RRM}	V		100
Maximum RMS Voltage	V_{RMS}	V		70
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, TL(Fig.1)	5
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, Ta=25℃	120
Junction Temperature	T_J	℃		-55 ~ +150
Storage Temperature	T_{STG}	℃		-55 ~ +150

Electrical Characteristics (T=25℃ Unless otherwise specified)

Item	Symbol	Unit	Test Condition		ST5100L	
Peak Forward Voltage	V_F	V	I_F=5.0A	T_a=25℃	0.58(TYP)	0.63(MAX)
				T_a=125℃	0.45(TYP)	0.50(MAX)
Peak Reverse Current	I_{RRM1}	mA	$V_{RM}=V_{RRM}$	T_a=25℃	0.035(TYP)	0.050(MAX)
	I_{RRM2}			T_a=125℃	20	
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	Between junction and ambient		80	
	$R_{\theta J-L}$		Between junction and terminal		5	
Typical junction capacitance	C_J	pF	VR=4.0 V, f=1 MHz		140	

Notes:

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

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

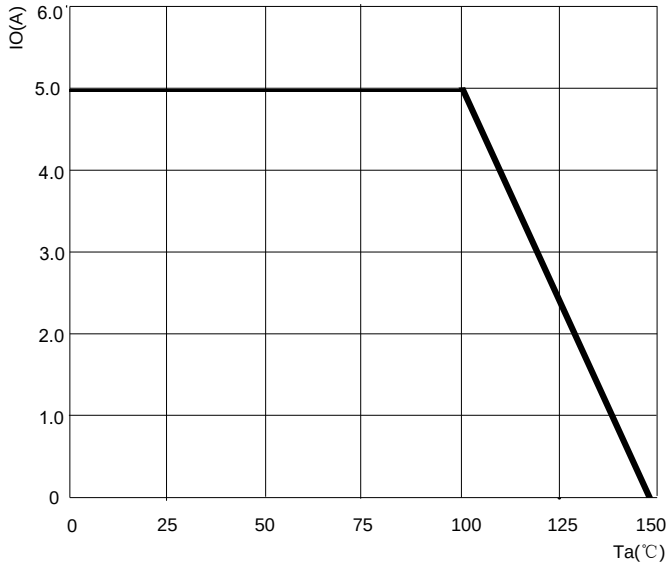


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

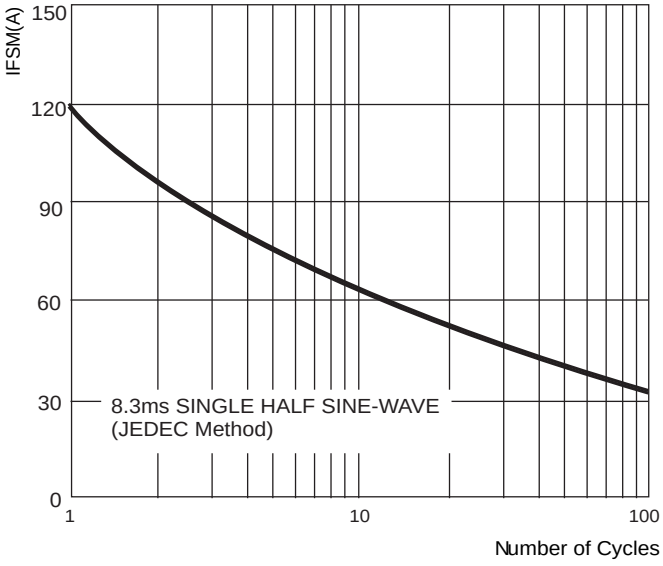


FIG.3: INSTANTANEOUS FORWARD CHARACTERISTICS

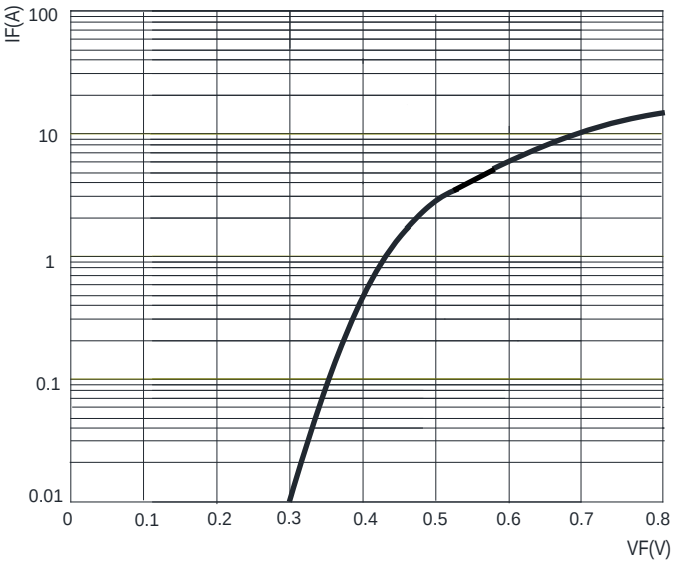
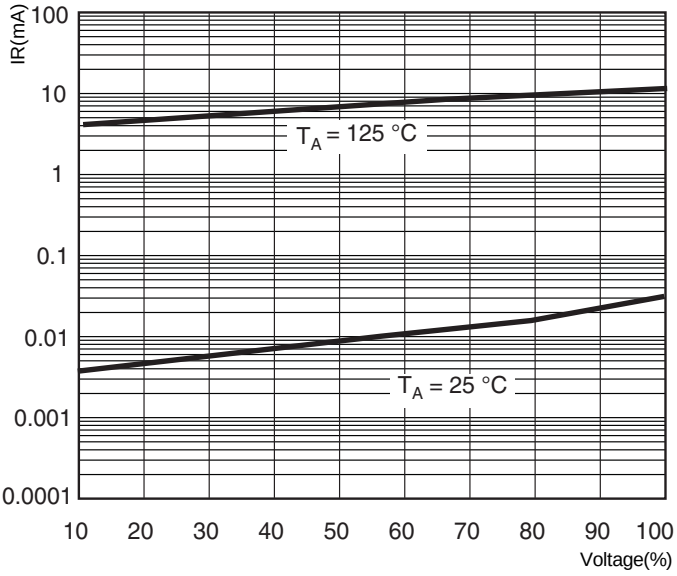
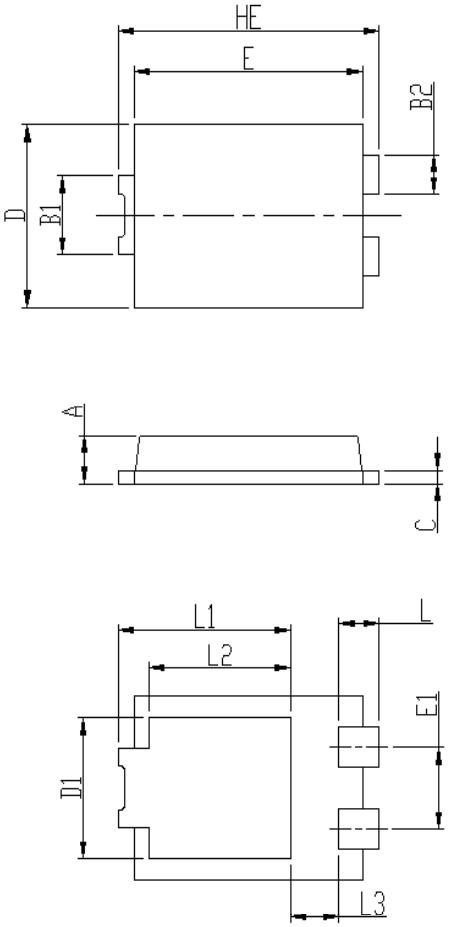


FIG.4：TYPICAL REVERSE CHARACTERISTICS

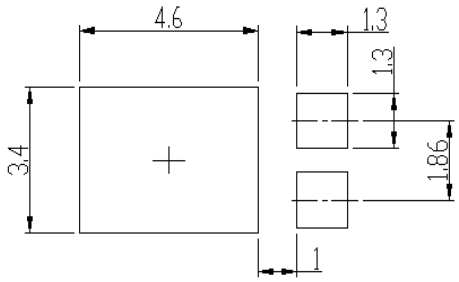


TO- 277 Package Outline Dimensions



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
HE	6.4	6.6	0.252	0.260
E	5.6	5.8	0.220	0.228
D	4.1	4.3	0.161	0.169
B1	1.7	1.9	0.067	0.075
B2	0.8	1	0.031	0.039
A	1.05	1.2	0.041	0.047
C	0.3	0.4	0.012	0.016
L	0.85	1.1	0.033	0.043
L1	4.2	4.4	0.165	0.173
L2	3.52 Typ.		0.139 Typ.	
L3	1.1	1.4	0.043	0.055
D1	3	3.3	0.118	0.130
E1	1.86 Typ.		0.073 Typ.	

TO- 277 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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