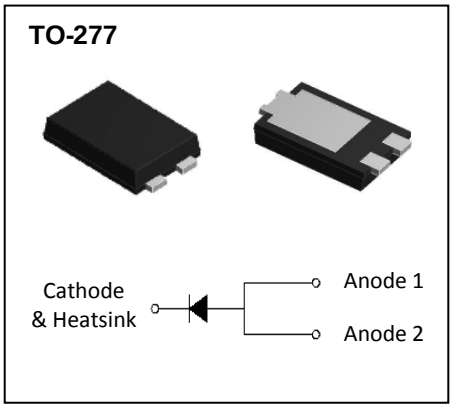
SZCJ

# TO-277 Plastic-Encapsulate Diodes

**ST5100L** **Schottky Rectifier Diode**

## Features

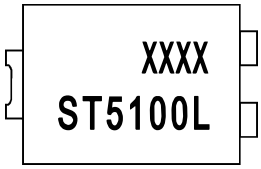
- $I_{F(AV)}$ 5A
- $V_{RRM}$ 100 V
- High surge current capability
- Low peak forward voltage




## Applications

- Rectifier

## Marking




XXXX=code

ST5100L=Device code

## 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

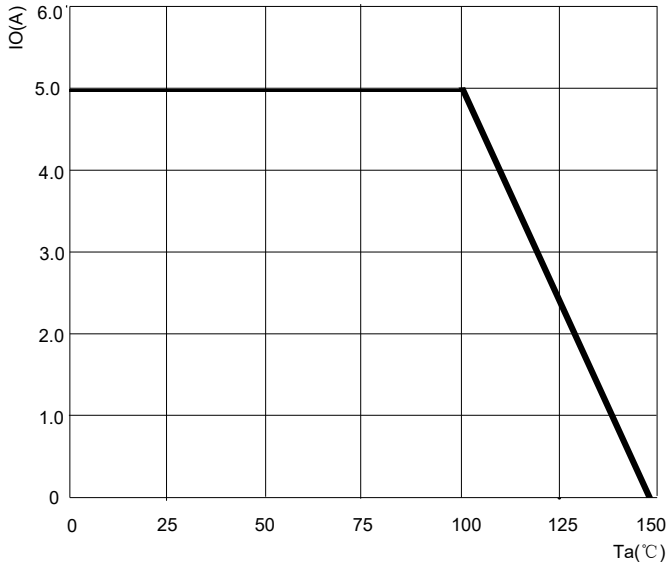



FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

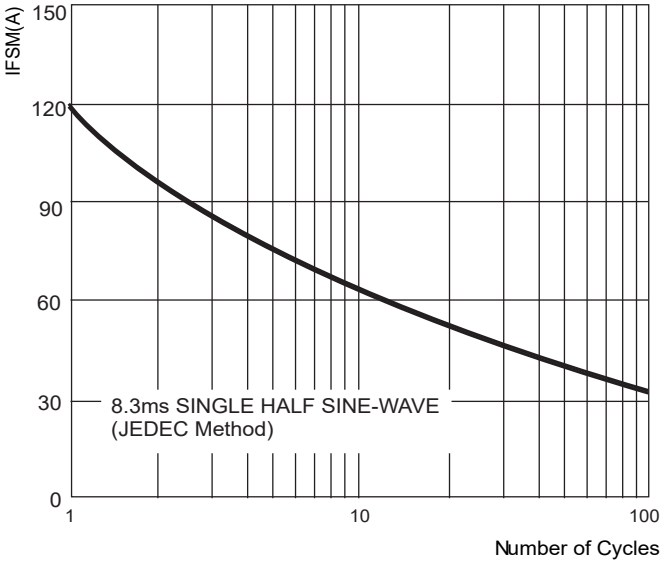



FIG.3: INSTANTANEOUS FORWARD CHARACTERISTICS

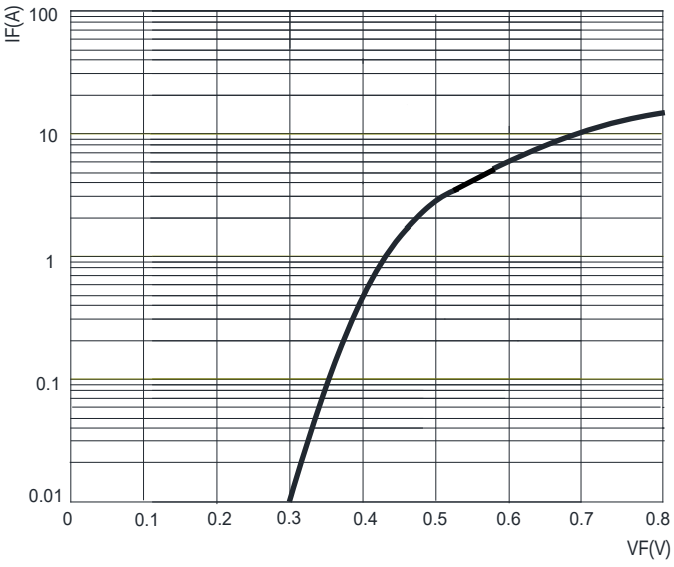
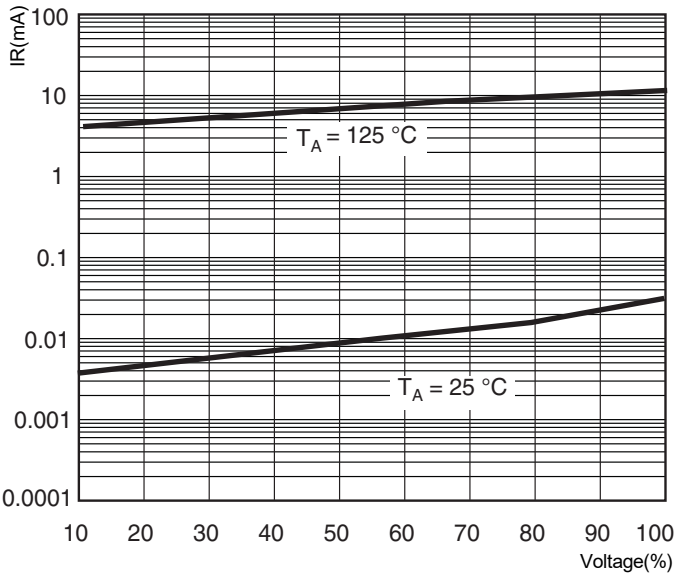
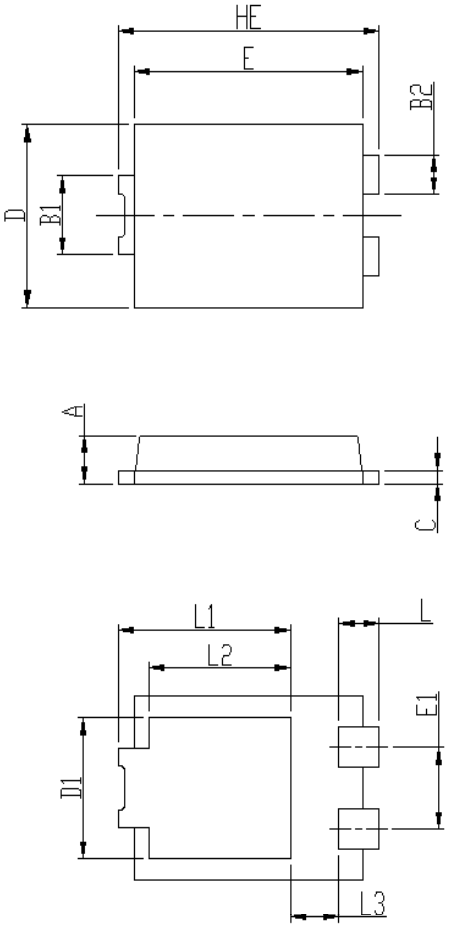



FIG.4: TYPICAL REVERSE CHARACTERISTICS

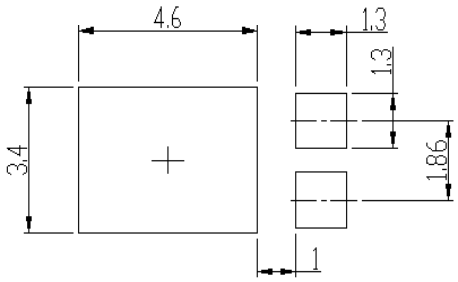


## TO- 277 Package Outline Dimensions




| 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 | 0.2 | 0.4 | 0.008 | 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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