

## / Descriptions

TO-277

Schottky diode in a TO-277 Plastic Package.

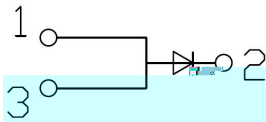
## / Features

High Forward Surge Capability, Ultra Low Forward Voltage Drop, Excellent High Temperature Stability.  
HF Product.

## / Applications

For use in low voltage,high frequency inverters, free wheeling, and polarity protection applications.

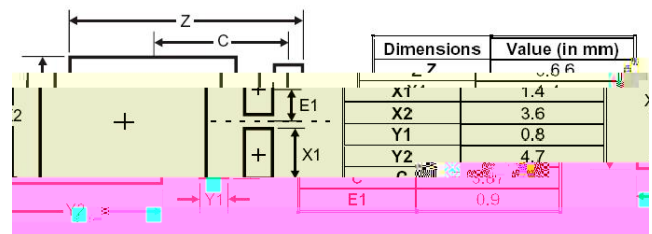
## / Equivalent Circuit



## / Pinning



PIN1 Anode    PIN 2 Cathode    PIN 3 Anode



Suggested Pad layout

## / $h_{FE}$ Classifications & Marking

See Marking Instructions.

**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                                                                               | Symbol                             | Rating  | Unit |
|-----------------------------------------------------------------------------------------|------------------------------------|---------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>Peak Reverse Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_{RM}$ | 45      | V    |
| RMS Reverse voltage                                                                     | $V_{R(RMS)}$                       | 36      | V    |
| Average Rectified Output Current                                                        | $I_O$                              | 10      | A    |
| Non-Repetitive Peak Forward Surge Current                                               | $I_{FSM}$                          | 200     | A    |
| Repetitive peak avalanche power                                                         | $P_{ARM}$                          | 20000   | W    |
| Junction Temperature Range                                                              | $T_j$                              | 150     | °C   |
| Storage Temperature Range                                                               | $T_{stg}$                          | -55 150 | °C   |
| Typical Thermal Resistance                                                              | $R_{\theta JA}$ Note 1             | 78      | °C/W |

**/ Electrical Characteristics(Ta=25 )**

| Parameter                     | Symbol       | Test Conditions              | Min | Typ  | Max  | Unit |
|-------------------------------|--------------|------------------------------|-----|------|------|------|
| Reverse Voltage               | $V_R$        | $I_R=0.3mA$                  | 45  |      |      | V    |
| Forward voltage               | $V_F$        | $I_F=2A$ $T_j=25^{\circ}C$   |     | 0.31 | 0.35 | V    |
|                               |              | $I_F=10A$ $T_j=25^{\circ}C$  |     | 0.45 | 0.51 | V    |
|                               |              | $I_F=10A$ $T_j=125^{\circ}C$ |     | 0.43 | 0.47 | V    |
| Instantaneous Reverse Current | $I_R$ Note 2 | $V_R=45V$ $T_j=25^{\circ}C$  |     |      | 150  | uA   |
|                               |              | $V_R=45V$ $T_j=100^{\circ}C$ |     | 16   | 30   | mA   |
|                               |              | $V_R=45V$ $T_j=125^{\circ}C$ |     | 50   | 100  | mA   |

/Notes

1. FR-4 PCB 2

/FR-4 PCB, 2oz. Copper, minimum recommended pad

layout per.

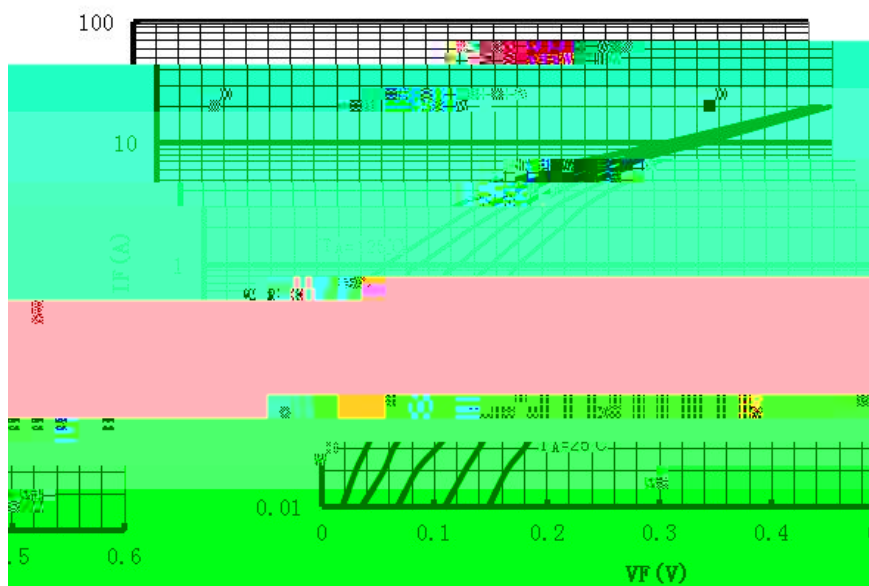
2.

/Short duration pulse test used to minimize self-heating

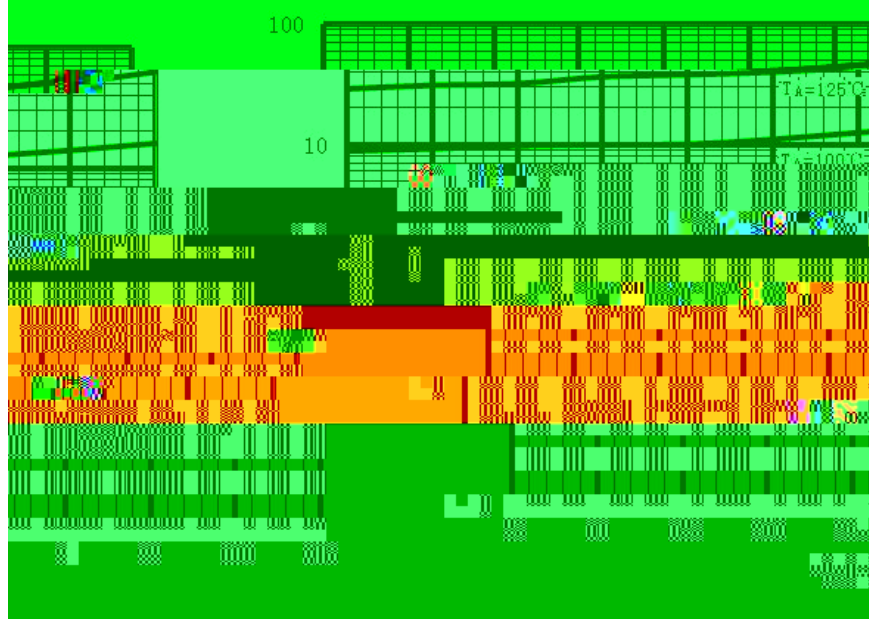
effect.

/ Electrical Characteristic Curve

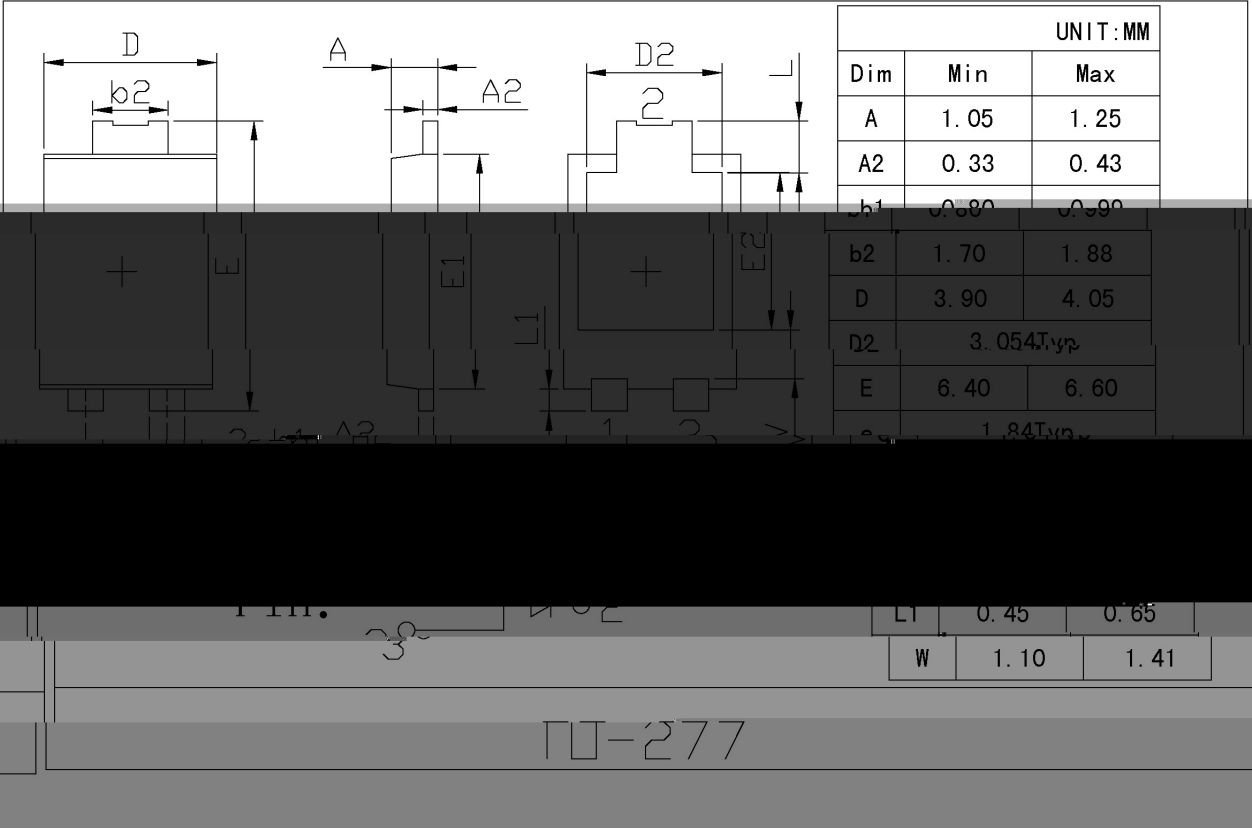
VF-IF



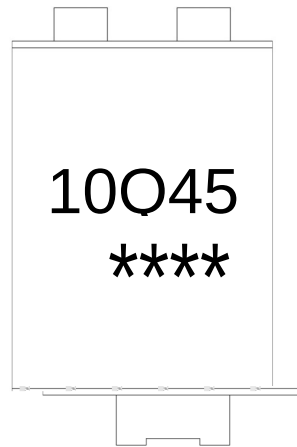
VR-IR



/ Package Dimensions



/ Marking Instructions



10Q45

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Note:

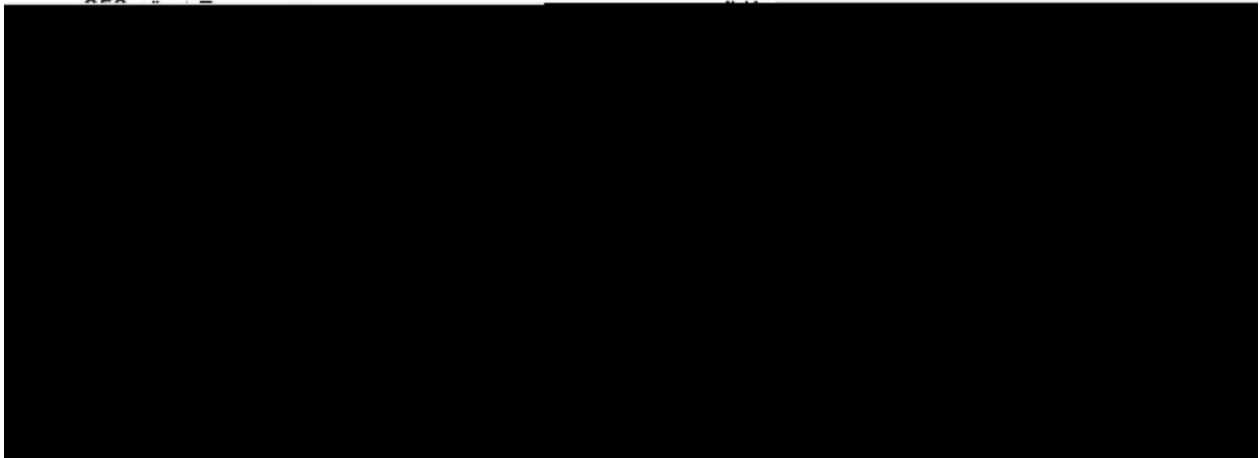
10Q45

Product Type.

\*\*\*\*:

Lot No. Code, code change with Lot No.

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |       |     |           |        |                                         |
|---|-------|-----|-----------|--------|-----------------------------------------|
| 1 | 150   | 180 | 60        | 90sec; | 1.Preheating:150~180 , Time:60~90sec.   |
| 2 | 245±5 |     | 5±0.5sec; |        | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 |       | 2   | 10        | /sec.  | 3. Cooling Speed: 2~10 /sec.            |

/ Resistance to Soldering Heat Test Conditions

260±5                      10±1 sec.                      Temp.:260±5℃                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| TO-277               | 5,000              | 3                       | 15,000                 | 6                            | 90,000                 | 13 ×12                                  | 360×360×50  | 380×335×366 |

/ Notices