

# LV10Q45E

Rev.F May-2016

## 描述 / Descriptions

TO-277 塑封封装 肖特基二极管。  
Schottky diode in a TO-277 Plastic Package.

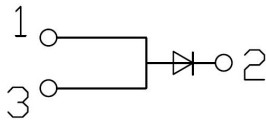
## 特征 / Features

高正向浪涌能力，超低正向压降，优异的高温稳定性。  
High Forward Surge Capability, Ultra Low Forward Voltage Drop, Excellent High Temperature Stability.

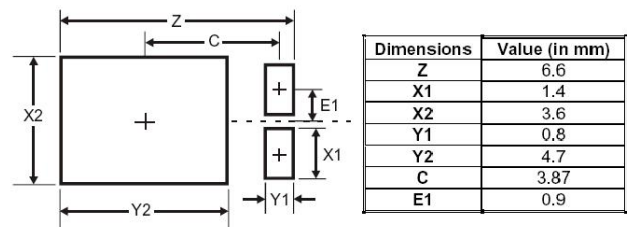
## 用途 / Applications

用于高频、低压、大电流整流二极管，续流二极管，保护二极管。  
For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Anode    PIN 2 : Cathode    PIN 3 : Anode

Suggested Pad layout

## 放大及印章代码 / $h_{FE}$ Classifications & Marking

见印章说明。 See Marking Instructions.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 参数<br>Parameter   | 符号<br>Symbol                       | 数值<br>Rating | 单位<br>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       |

**电性能参数 / Electrical Characteristics(Ta=25°C)**

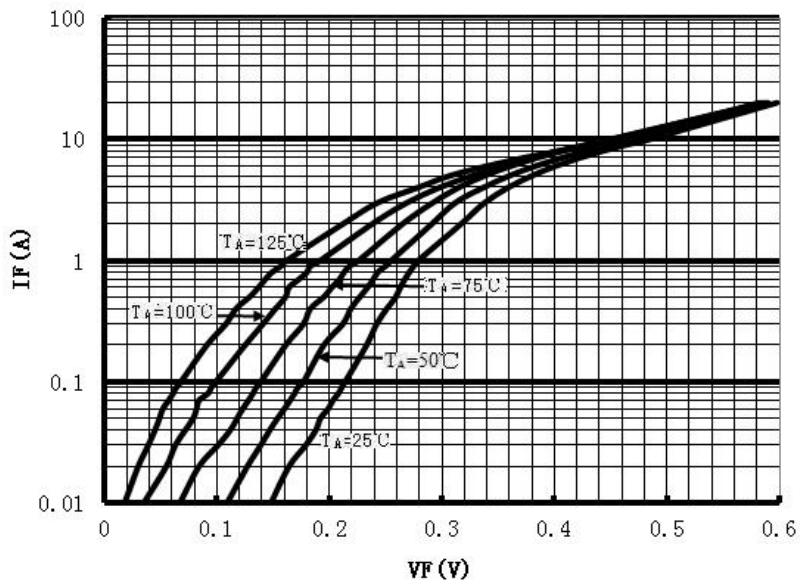
| 参数<br>Parameter               | 符号<br>Symbol   | 测试条件<br>Test Conditions     | 最小值<br>Min | 典型值<br>Typ | 最大值<br>Max | 单位<br>Unit |
|-------------------------------|----------------|-----------------------------|------------|------------|------------|------------|
| Reverse Voltage               | $V_R$          | $I_R=0.3mA$                 | 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         |

注/Notes:

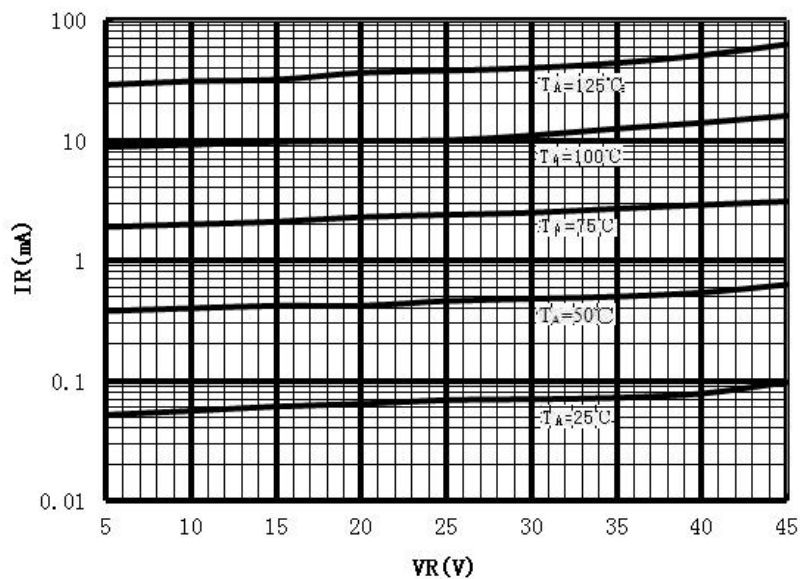
- FR-4 PCB, 2盎司铜, 最低建议焊盘布局。/FR-4 PCB, 2oz. Copper, minimum recommended pad layout per.
- 使用极短的测试时间,以尽量减少自热效应。/Short duration pulse test used to minimize self-heating effect.

电参数曲线图 / Electrical Characteristic Curve

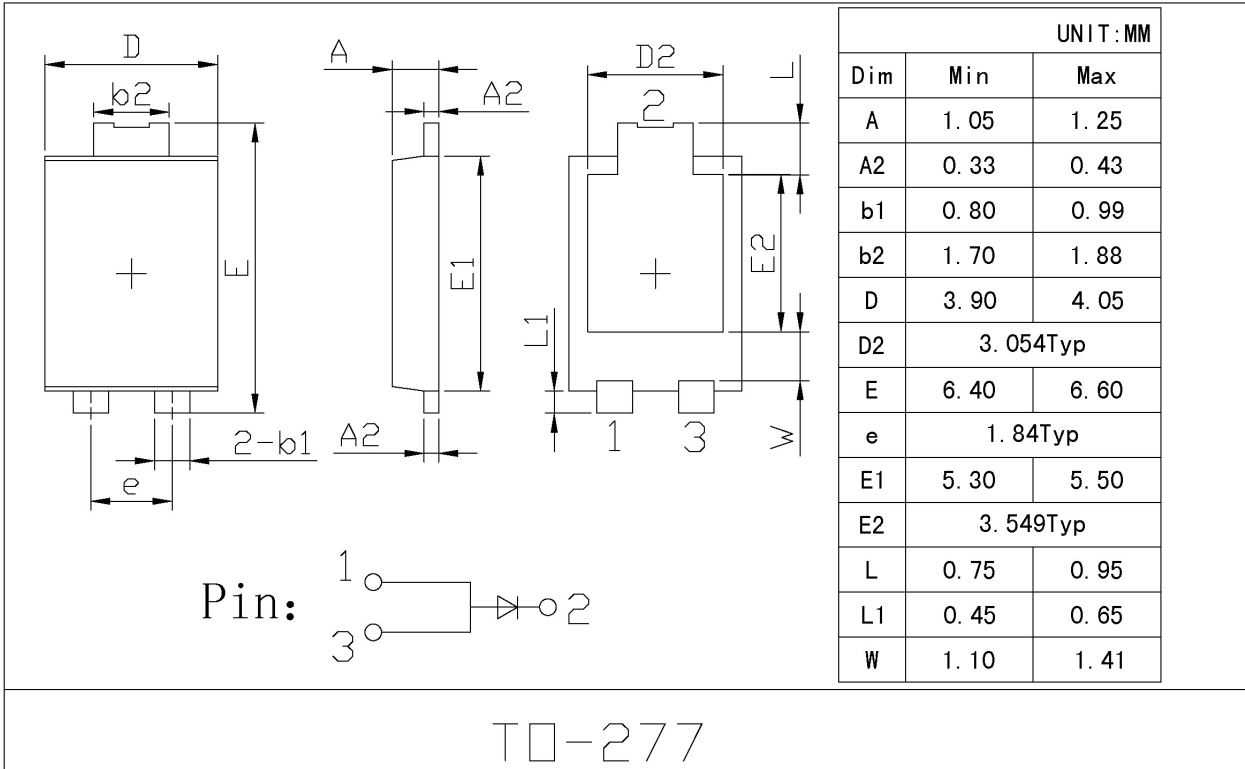
VF-IF



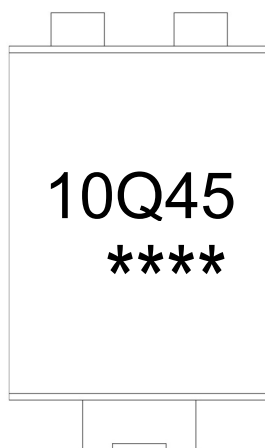
VR-IR



**外形尺寸图 / Package Dimensions**



印章说明 / Marking Instructions



说明：

10Q45：为型号代码

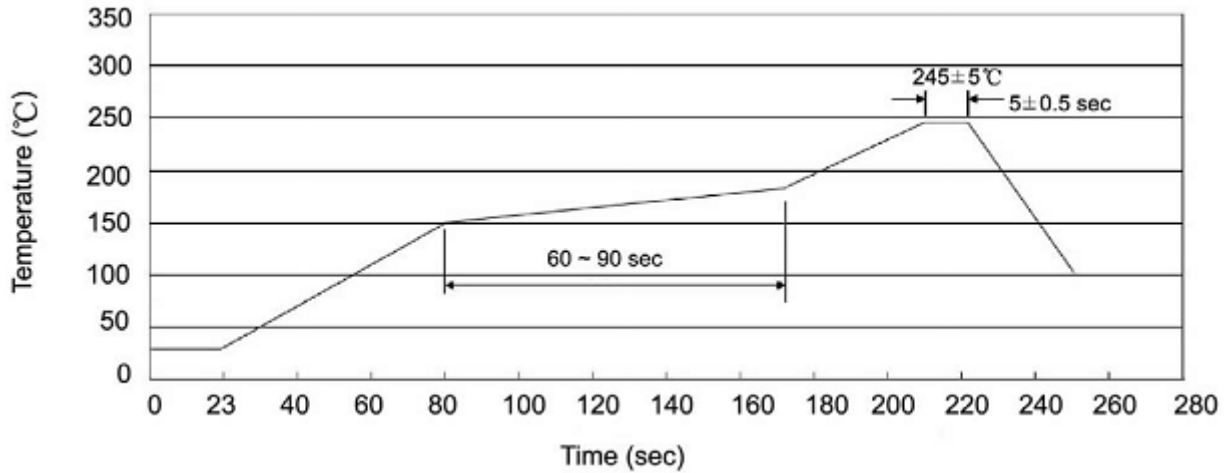
\*\*\*\*：为生产批号代码，随生产批号变化

Note:

10Q45：Product Type.

\*\*\*\*: Lot No. Code, code change with Lot No.

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 25~150°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / 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                 | 5                            | 75,000                 | 13" ×12                                 | 360×360×50  | 385×257×392 |

**使用说明 / Notices**