

LV10Q45E

Rev.G Oct.-2018

/ Descriptions

TO-277

Schottky diode in a TO-277 Plastic Package.

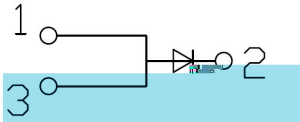
/ Features

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

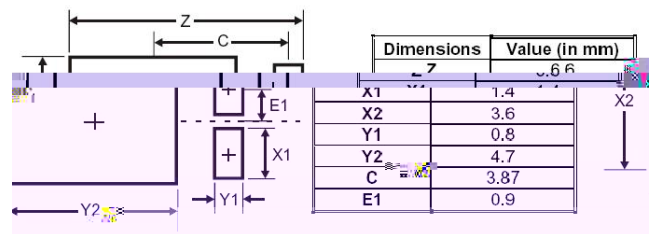
/ Applications

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 Working Peak Reverse Voltage Peak Reverse Voltage | V_{RRM} V_{RWM} 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.

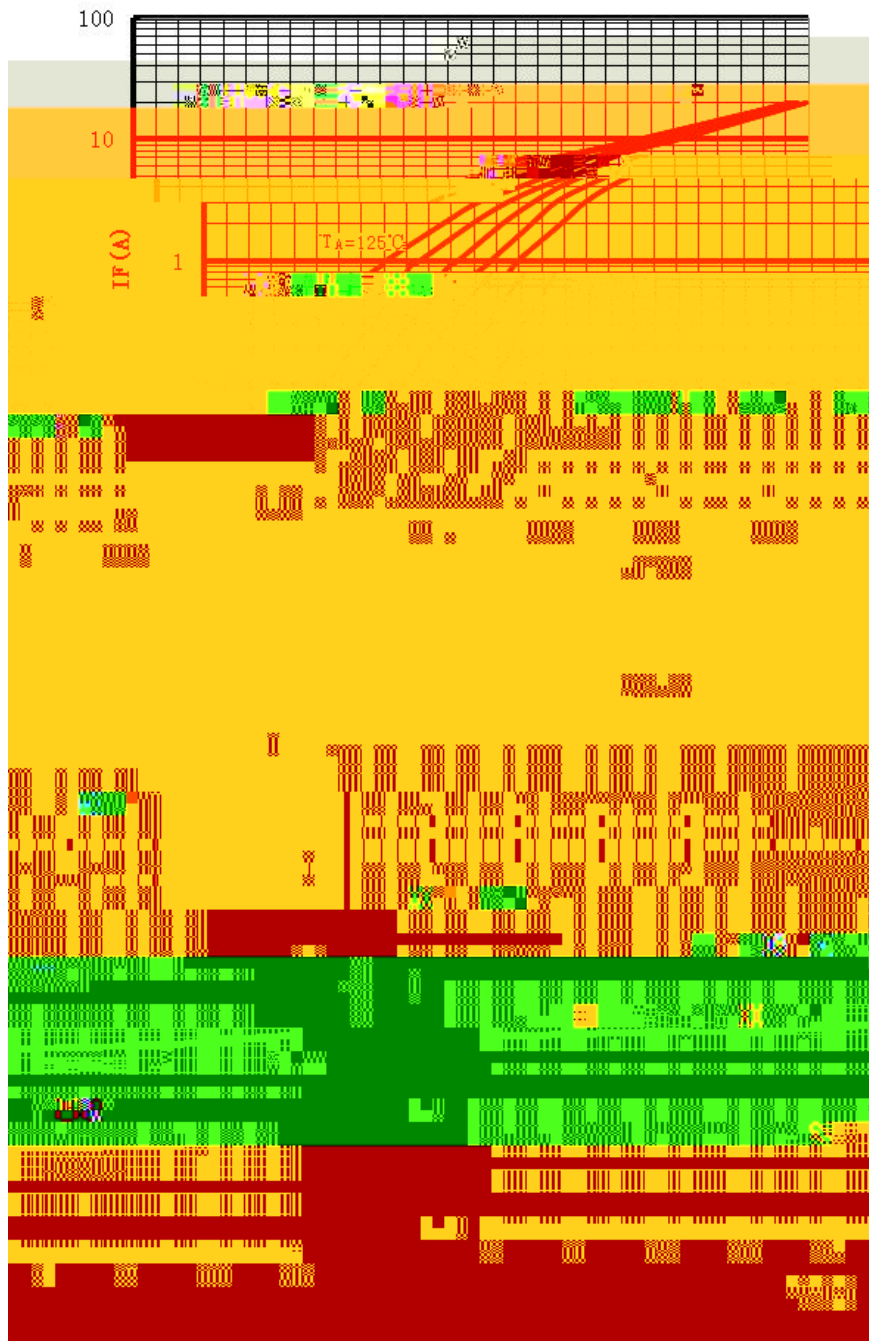
2.

/Short duration pulse test used to minimize self-heating

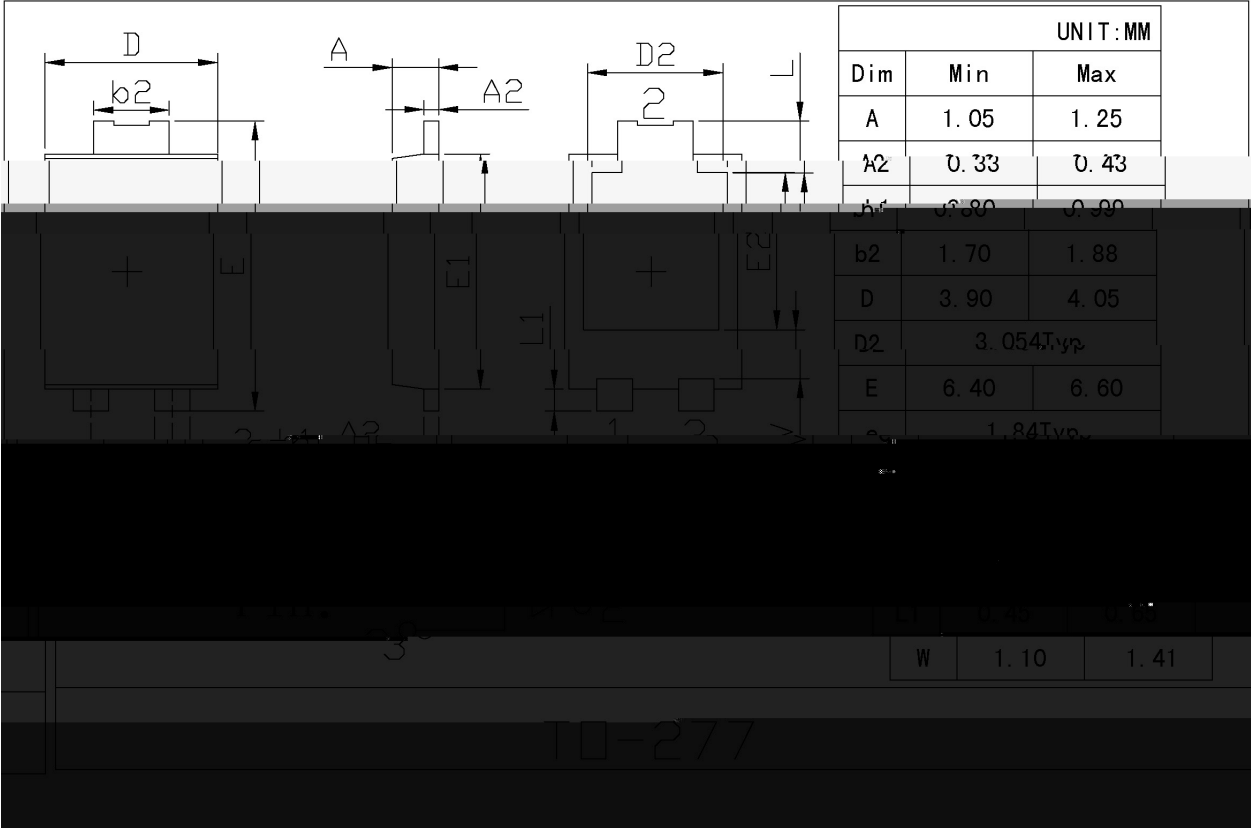
effect.

/ Electrical Characteristic Curve

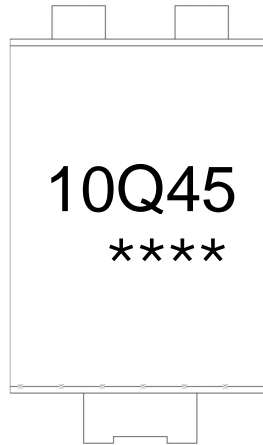
V_F-I_F



/ Package Dimensions



/ Marking Instructions



10Q45

Note:

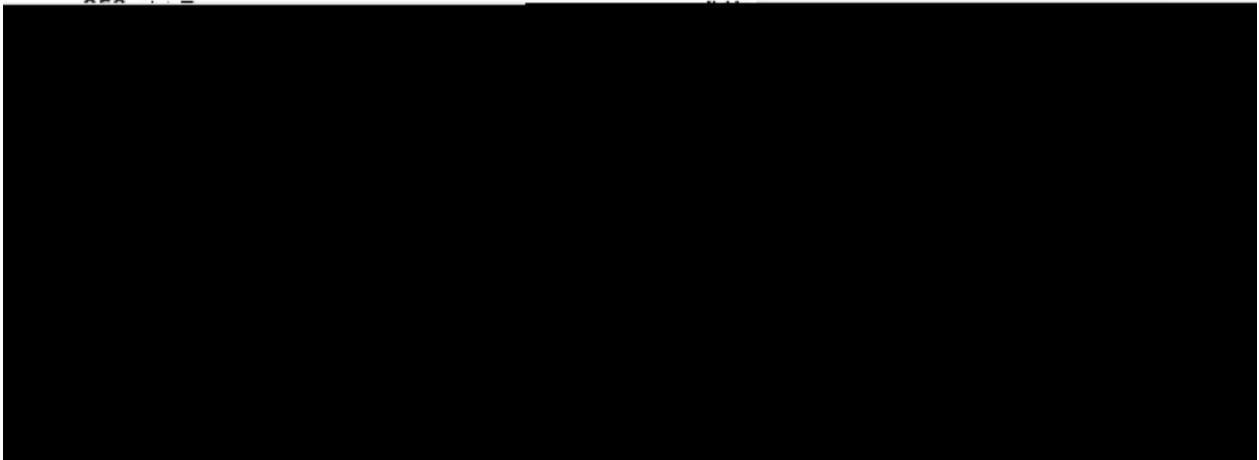
10Q45

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 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 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