NTE6013
Silicon Industrial Rectifier
600V, 12.7 Amp, TO220 Isolated Tab

Description:
The NTE6013 is a 12.7 Ampere (20A RMS) silicon rectifier in an electrically isolated TO220 type package with a voltage rating of 600V for use in common anode or common cathode circuits. This device features a glass–passivated junction to ensure long term reliability and stability. In addition, glass offers a rugged, reliable barrier against junction contamination.

Features:
- Electrically–Isolated Package
- High Voltage Capabilities: \( V_{RRM} = 600V \)
- High Surge Capabilities (Up to 300 Amps)
- Glass–Passivated Junction

Electrical Specifications: (Note 1)
- Minimum Peak Repetitive Reverse Voltage, \( V_{RRM} \) ................................. 600V
- Minimum DC Blocking Voltage, \( V_R \) ........................................ 600V
- Maximum Average Forward Current, \( I_{F(AV)} \) ........................................ 12.7A
- Maximum RMS Forward Current, \( I_{F(RMS)} \) ........................................ 20A
- Peak One Cycle Surge Current, \( I_{FSM} \)
  - 60Hz ........................................ 300A
  - 50Hz ........................................ 255A
- Maximum Peak Reverse Current, \( I_{RM} \)
  - \( T_C = +25^\circ C \) ........................................ 0.1mA
  - \( T_C = +100^\circ C \) ........................................ 0.5mA
  - \( T_C = +125^\circ C \) ..................................... 1.0mA
- Maximum Peak Forward Voltage (\( V_{RRM} = 600V, T_C = +25^\circ C \)), \( V_{FM} \) ..................... 1.6V
- RMS Surge (Non–Repetitive) Forward Current for 8.3mS for Fusing, \( I^2t \) .................. 374A^2Sec
- Operating Temperature Range, \( T_{opr} \) ........................................ -40° to +125°C
- Storage Temperature Range, \( T_{stg} \) ........................................ -40° to +125°C
- Lead Temperature (During Soldering, 1/16” from case for 10sec), \( T_L \) ......................... +230°C
- Typical Thermal Resistance (Steady State), Junction–to–Case, \( R_{thJC} \) ..................... 2.5°C/W

Note 1. \( T_C = T_J \) for test conditions.
Note 2. Electrically isolated TO220 devices will withstand a high potential test of 2500VAC RMS from leads to case over the operating temperature range.