# NTE6409
# Unijunction Transistor

## Description:

The NTE6409 is designed for use in pulse and timing circuits, sensing circuits and thyristor trigger circuits.

## Features:

● Low Peak Point Current:  2µA Max

● Low Emitter Reverse Current:  200nA Max

● Passivated Surface for Reliability & Uniformity

## Absolute Maximum Ratings:  ($T_A$ = +25°C, unless otherwise specified)

Power Dissipation (Note 1), $P_D$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 300mW

RMS Emitter Current, $I_{E(RMS)}$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50mA

Peak Pulse Emitter Current (Note 2), $i_E$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2A

Emitter Reverse Voltage, $V_{B2E}$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 30V

Interbase Voltage, $V_{B2B1}$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 35V

Operating Junction Temperature Range, $T_J$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . −65° to +125°C

Storage Temperature Range, $T_{stg}$  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . −65° to +150°C

Note  1. Derate 3mW/°C increase in ambient temperature.  The total power dissipation (available power to Emitter and Base−Two) must be limited by the external circuitry.

Note  2. Capacitor discharge:  10µF or less, 30V or less

## Electrical Characteristics: ($T_A$ = +25°C unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------|--------|-----------------|-----|-----|-----|------|
| Intrinsic Standoff Ratio | $\eta$ | $V_{B2B1}$ = 10V, Note 3 | 0.68 | – | 0.82 | |
| Interbase Resistance | $r_{BB}$ | $V_{B2B1}$ = 3V, $I_E$ = 0 | 4.7 | 7.0 | 9.1 | kΩ |
| Interbase Resistance Temperature Coefficient | $\alpha r_{BB}$ | $V_{B2B1}$ = 3V, $I_E$ = 0, $T_A$ = −55° to +125°C | 0.1 | – | 0.9 | %/°C |
| Emitter Saturation Voltage | $V_{EB1(sat)}$ | $V_{B2B1}$ = 10V, $I_E$ = 50mA, Note 4 | – | 3.5 | – | V |
| Modulated Interbase Current | $I_{B2(mod)}$ | $V_{B2B1}$ = 10V, $I_E$ = 50mA | – | 15 | – | mA |
| Emitter Reverse Current | $I_{EB2O}$ | $V_{B2E}$ = 30V, $I_{B1}$ = 0 | – | 0.005 | 0.2 | μA |
| Peak Point Emitter Current | $I_P$ | $V_{B2B1}$ = 25V | – | 1 | 2 | μA |
| Valley Point Current | $I_V$ | $V_{B2B1}$ = 20V, $R_{B2}$ = 100Ω, Note 4 | 8 | 10 | 18 | mA |
| Base–One Peak Pulse Voltage | $V_{OB1}$ | | 6 | 7 | – | V |

Note 3. Intrinsic Standoff Ratio, $\eta$, is defined by the equation:
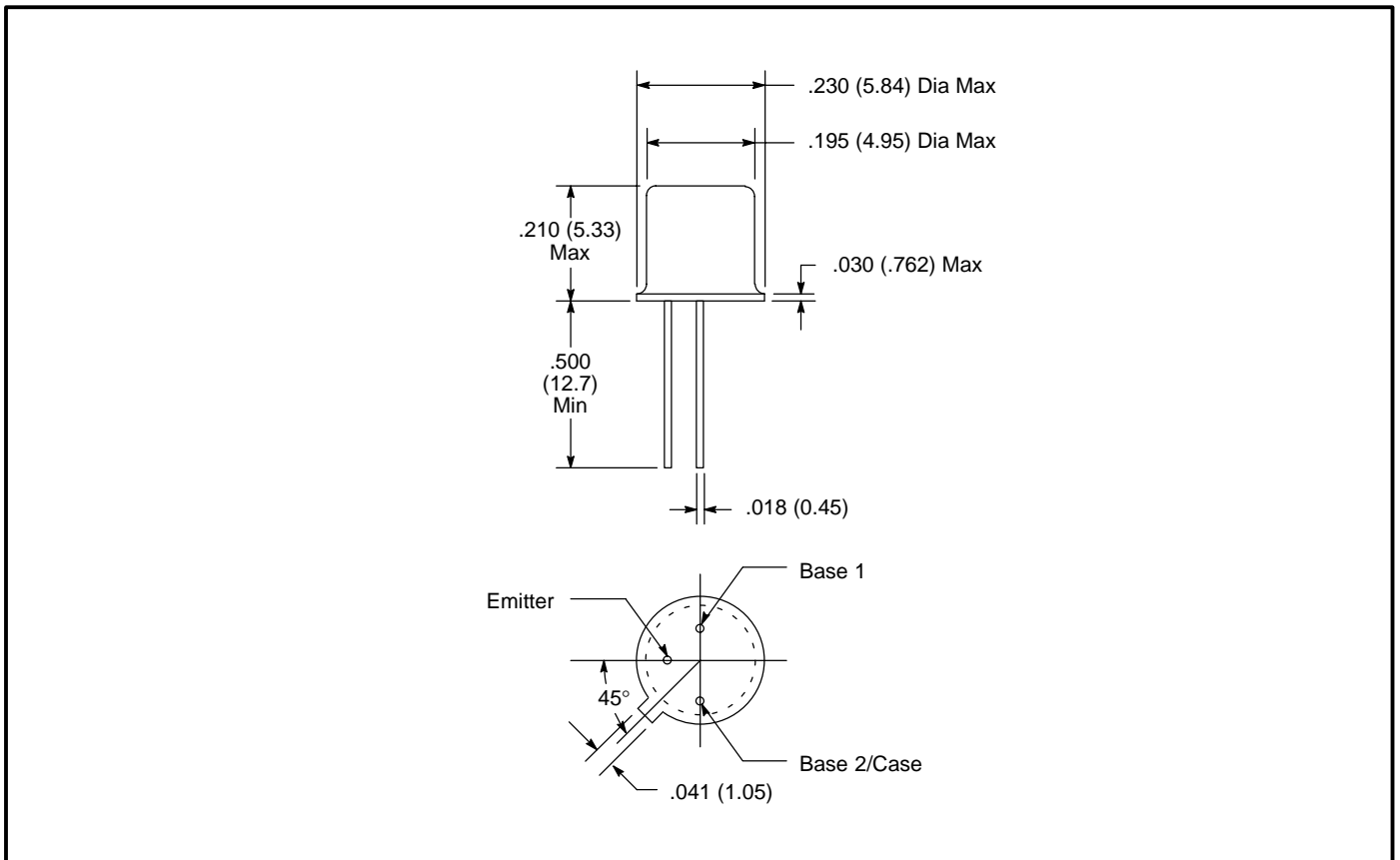
$$\eta = \frac{V_P - V_F}{V_{B2B1}}$$

Where: $V_P$ = Peak Point Emitter Voltage
$V_{B2B1}$ = Interbase Voltage
$V_F$ = Emitter to Base–One Junction Diode Drop (□ 0.45V @ 10μA)

Note 4. Use pulse techniques: PW □ 300μs, Duty Cycle ≤ 2% to avoid internal heating due to interbase modulation which may result in erroneous readings.



.230 (5.84) Dia Max
.195 (4.95) Dia Max
.210 (5.33) Max
.030 (.762) Max
.500 (12.7) Min
.018 (0.45)
Base 1
Emitter
45°
Base 2/Case
.041 (1.05)

# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for* MOSFET *category:*

*Click to view products by* NTE *manufacturer:*

Other Similar products are found below :

614233C  648584F  MCH3443-TL-E  MCH6422-TL-E  FDPF9N50NZ  FW216A-TL-2W  FW231A-TL-E  APT5010JVR  NTNS3A92PZT5G  IRF100S201  JANTX2N5237  2SK2464-TL-E  2SK3818-DL-E  FCA20N60_F109  FDZ595PZ  STD6600NT4G  FSS804-TL-E  2SJ277-DL-E  2SK1691-DL-E  2SK2545(Q,T)  405094E  423220D  MCH6646-TL-E  TPCC8103,L1Q(CM  367-8430-0972-503  VN1206L  424134F  026935X  051075F  SBVS138LT1G  614234A  715780A  NTNS3166NZT5G  751625C  873612G  IRF7380TRHR  IPS70R2K0CEAKMA1  RJK60S3DPP-E0#T2  RJK60S5DPK-M0#T0  APT5010JVFR  APT12031JFLL  APT12040JVR  DMN3404LQ-7  NTE6400  JANTX2N6796U  JANTX2N6784U  JANTXV2N5416U4  SQM110N05-06L-GE3  SIHF35N60E-GE3  2SK2614(TE16L1,Q)