

NTE6407, NTE6408, NTE6411, NTE6412 Bilateral Trigger Diodes (DIACS)

Description:

The NTE6407 thru NTE6412 are bilateral trigger DIACs offering a range of voltage characteristics from 28V to 63V. These devices are triggered from a blocking-to-conduction state for either polarity of applied voltage whenever the amplitude of applied voltage exceeds the breakover voltage rating of the DIAC.

Features:

- Glass-Chip Passivation
- DO35 Type Trigger Package
- Wide Voltage Range Selection

Absolute Maximum Ratings:

Maximum Trigger Firing Capacitance 0.1 μ F
 Device Dissipation ($T_A = -40^\circ$ to $+40^\circ\text{C}$), P_D 250mW
 Derate Above $+40^\circ\text{C}$ 3.6mW/ $^\circ\text{C}$
 Operating Junction Temperature Range, T_j -40° to $+125^\circ\text{C}$
 Storage Temperature Range, T_{stg} -40° to $+125^\circ\text{C}$
 Thermal Resistance, Junction-to-Ambient, R_{thJA} 278°C/W
 Thermal Resistance, Junction-to-Lead (Note 1), R_{thJL} 100°C/W
 Lead Temperature (During Soldering, 1/16" (1.59mm) from case, 10sec max), T_L $+230^\circ\text{C}$

Note 1. Based on maximum lead temperature of $+85^\circ\text{C}$ at $\leq 250\text{mW}$.

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Breakover Voltage (Forward and Reverse)	V_{BO}					
NTE6407			24	28	32	V
NTE6408			28	32	36	V
NTE6411			35	40	45	V
NTE6412			56	63	70	V
Breakover Voltage Symmetry	ΔV_{BO}	Note 2				
NTE6407, NTE6408			–	–	2	V
NTE6411			–	–	3	V
NTE6412			–	–	4	V

Note 2. $\Delta V_{BO} = [| +V_{BO} | - | -V_{BO} |]$.

Electrical Characteristics (Cont'd): ($T_C = +25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Breakback Voltage NTE6407, NTE6408	V_{BB}	$ \Delta V_{\pm} $, at 10mA, Note 3	7	–	–	V
NTE6411		$ \Delta V_{\pm} $, Note 3	10	–	–	V
NTE6412			20	–	–	V
Peak Breakover Current	I_{BO}	At Breakover Voltage	–	–	25	μA
Peak Pulse Current NTE6407, NTE6408, NTE6411	I_{TRM}	For 10 μs , 120PPs, $T_A \leq +40^{\circ}\text{C}$	–	–	2.0	A
NTE6412			–	–	1.5	A

Note 3. Typical switching time is 900ns measured at I_{PK} .

