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## 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 ..... 0.1μF  
 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,  $T_j$  .....  $-40^\circ$  to  $+125^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-40^\circ$  to  $+125^\circ\text{C}$   
 Thermal Resistance, Junction-to-Ambient,  $R_{thJA}$  ..... 278 $^\circ\text{C}/\text{W}$   
 Thermal Resistance, Junction-to-Lead (Note 1),  $R_{thJL}$  ..... 100 $^\circ\text{C}/\text{W}$   
 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)	$V_{BO}$		24	28	32	V
NTE6407						
NTE6408						
NTE6411						
NTE6412			56	63	70	V
Breakover Voltage Symmetry	$\Delta V_{BO}$	Note 2	-	-	2	V
NTE6407, NTE6408						
NTE6411						
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	$\mu\text{A}$
Peak Pulse Current NTE6407, NTE6408, NTE6411	$I_{TRM}$	For $10\mu\text{s}$ , 120PPs, $T_A \leq +40^\circ\text{C}$	-	-	2.0	A
NTE6412			-	-	1.5	A

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

