



**ELECTRONICS, INC.**  
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## **NTE6415 thru NTE6419 Bidirectional Thyristor Diodes (SIDAC)**

**Description:**

The NTE6415 through NTE6419 SIDAC devices are silicon bilateral voltage triggered switches with greater power handling capabilities than standard DIACs. Upon application of a voltage exceeding the SIDAC breakover voltage point, the SIDAC switches on through a negative resistance region to a low on-state voltage. Conduction will continue until the current is interrupted or drops below the minimum holding current of the device.

**Features:**

- Especially Effective in AC Circuits
- Switching Function Directly with the AC Power Line
- Applicable for Various Pulse Generators

**Applications:**

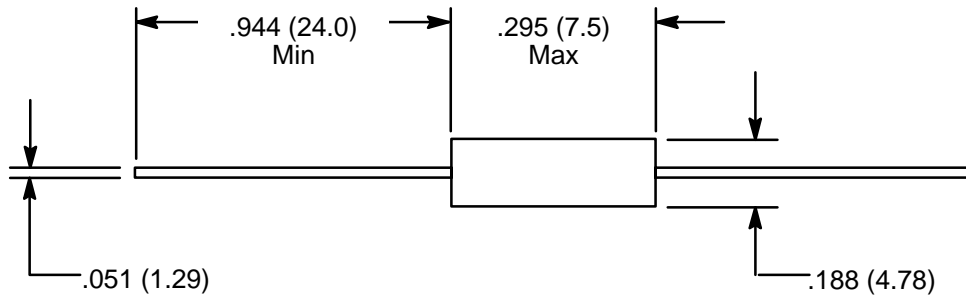
- High Voltage Lamp Ignitors
- Natural Gas Ignitors
- Gas Oil Ignitors
- High Voltage Power Supplies
- Xenon Ignitors
- Overvoltage Protection
- Pulse generators
- Fluorescent Lighting Ignitors

**Absolute Maximum Ratings:**

Peak Off Voltage, $V_{DRM}$	
NTE6415, NTE6416 .....	45V
NTE6417, NTE6418, NTE6419 .....	90V
Effective Current ( $T_A = +40^\circ\text{C}$ , 50Hz, Sine Wave, Conducting Angle = $180^\circ$ ), $I_T$ .....	1A
Surge Current (50Hz, Non-Repeated 1 Cycle Sine wave, Peak Value), $I_{TSM}$ .....	13A
Peak Current ( $T_A = +40^\circ\text{C}$ , Pulse Width = $10\mu\text{s}$ , $f = 1\text{kHz}$ ), $I_{TRM}$ .....	20A
Current Rise Rate, $di/dt$ .....	50A/ $\mu\text{s}$
Maximum Operating Junction Temperature, $T_J$ .....	+125°C
Storage Temperature Range, $T_{stg}$ .....	-30° to +125°C
Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	15°C/W
Lead Temperature (During Soldering, 5mm from case, 5sec max), $T_L$ .....	+250°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Breakover Voltage NTE6415	$V_{BO}$	50Hz Sine wave, $I_B = 0$	45	–	60	V
NTE6416			55	–	65	V
NTE6417			95	–	113	V
NTE6418			104	–	118	V
NTE6419			110	–	125	V
Peak Off Current	$I_{DRM}$	50Hz Sine Wave, $V = \text{Rated } V_{DRM}$	–	–	10	$\mu\text{A}$
Breakover Current	$I_{BO}$	50Hz Sine Wave	–	–	0.5	mA
Holding Current	$I_H$	50Hz Sine Wave	–	50	–	mA
ON Voltage	$V_T$	$I_T = 1\text{A}$	–	–	1.5	V
Switching Resistance	$R_S$	50Hz Sine Wave	0.1	–	–	$\text{k}\Omega$



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