



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°), 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/ μs
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	μA
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	–	–	$\text{k}\Omega$

