



ELECTRONICS, INC.

44 FARRAND STREET  
BLOOMFIELD, NJ 07003  
(973) 748-5089  
<http://www.nteinc.com>

## NTE6354 thru NTE6365 Silicon Power Rectifier Diode, 300 Amp

### Features:

- Diffused Diode
- High Voltage Ratings up to 1600 Volts
- High Surge Current Capabilities
- Available in Anode-to-Case or Cathode-to-Case Style

### Ratings and Characteristics:

Average Forward Current ( $T_C = +130^\circ\text{C Max}$ ), $I_{F(AV)}$ .....	300A
Maximum Repetitive Peak Reverse Voltage, $V_{RRM}$	
NTE6354, NTE6355* .....	400V
NTE6356, NTE6357* .....	600V
NTE6358, NTE6359* .....	1000V
NTE6362, NTE6363* .....	1400V
NTE6364, NTE6365* .....	1600V
Maximum Non-Repetitive Peak Reverse Voltage, $V_{RSM}$	
NTE6354, NTE6355* .....	500V
NTE6356, NTE6357* .....	720V
NTE6358, NTE6359* .....	1200V
NTE6362, NTE6363* .....	1500V
NTE6364, NTE6365* .....	1700V
Maximum Repetitive Peak Reverse Current ( $T_J = +200^\circ\text{C}$ ), $I_{RRM}$	
NTE6354, NTE6355* .....	40mA
NTE6356, NTE6357* .....	40mA
NTE6358, NTE6359* .....	30mA
NTE6362, NTE6363* .....	30mA
NTE6364, NTE6365* .....	30mA
Maximum Forward Surge Current, $I_{FSM}$	
50Hz .....	5000A
60Hz .....	5200A
Fusing Current, $I^2t$	
50Hz .....	214000A <sup>2</sup> s
60Hz .....	195000A <sup>2</sup> s
Operating Junction Temperature, $T_J$ .....	-40° to +180°C

\* Indicated Anode-to-Case polarity, Cathode-to-Case polarity is standard.

### Electrical Specifications:

Parameter	Symbol	Test Conditions		Rating	Unit	
Maximum Average Forward Current	$I_{F(AV)}$	180° sinusoidal condition, $T_C = +130^\circ\text{C}$ Max		300	A	
Maximum Peak One-Cycle Non-Repetitive Surge Current	$I_{FSM}$	t = 10ms	No voltage reapplied	Sinusoidal half wave, Initial $T_J = T_J$ max	5000	A
		t = 8.3ms			5200	A
		t = 10ms	100% $V_{RRM}$ reapplied		3800	A
		t = 8.3ms			4000	A
Maximum $I^2t$ for Fusing	$I^2t$	t = 10ms	No voltage reapplied	214000	$\text{A}^2\text{s}$	
		t = 8.3ms		195000	$\text{A}^2\text{s}$	
Maximum $I^2t$ for Individual Device Fusing	$I^2t$	t = 10ms	100% $V_{RRM}$ reapplied	151000	$\text{A}^2\text{s}$	
		t = 8.3ms		138000	$\text{A}^2\text{s}$	
Maximum $I^2\sqrt{t}$	$I^2\sqrt{t}$	t = 0.1 to 10ms, no voltage reapplied		2140000	$\text{A}^2\sqrt{\text{t}}$	
Maximum Value of Threshold Voltage	$V_{M(TO)}$	$T_J = +200^\circ\text{C}$		0.610	V	
Maximum Value of Forward Slope Resistance	$r_t$	$T_J = +200^\circ\text{C}$		0.751	$\text{m}\Omega$	

### Thermal-Mechanical Specifications:

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Operation Junction Temperature	$T_J$		-40 to + 180	$^\circ\text{C}$
Maximum Storage Temperature	$T_{stg}$		-55 to + 180	$^\circ\text{C}$
Maximum Internal Thermal Resistance Junction-to-Case	$R_{thJC}$	DC operation	0.18	K/W
Thermal Resistance, Case-to-Sink	$R_{thCS}$	Mounting surface flat, smooth and greased	0.08	K/W
Mounting Torque	T	Non-lubricated threads	40.06 (360)	$\text{m}\bullet\text{N}$ $(\text{in}\bullet\text{lb})$

