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## 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,  $T_J$  .....  $-40^\circ$  to  $+180^\circ\text{C}$

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

**Electrical Specifications:**

Parameter	Symbol	Test Conditions			Rating	Unit
Maximum Average Forward Current	I <sub>F(AV)</sub>	180° sinusoidal condition, T <sub>C</sub> = +130°C Max			300	A
Maximum Peak One–Cycle Non–Repetitive Surge Current	I <sub>FSM</sub>	t = 10ms	No voltage reapplied	Sinusoidal half wave, Initial T <sub>J</sub> = T <sub>J</sub> max	5000	A
		t = 8.3ms			5200	A
		t = 10ms	100% V <sub>RRM</sub> reapplied		3800	A
		t = 8.3ms			4000	A
Maximum I <sup>2</sup> t for Fusing	I <sup>2</sup> t	t = 10ms	No voltage reapplied		214000	A <sup>2</sup> s
		t = 8.3ms			195000	A <sup>2</sup> s
Maximum I <sup>2</sup> t for Individual Device Fusing		t = 10ms	100% V <sub>RRM</sub> reapplied		151000	A <sup>2</sup> s
		t = 8.3ms			138000	A <sup>2</sup> s
Maximum I <sup>2</sup> √t	I <sup>2</sup> √t	t = 0.1 to 10ms, no voltage reapplied			2140000	A <sup>2</sup> √t
Maximum Value of Threshold Voltage	V <sub>M (TO)</sub>	T <sub>J</sub> = +200°C			0.610	V
Maximum Value of Forward Slope Resistance	r <sub>t</sub>	T <sub>J</sub> = +200°C			0.751	mΩ

**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)	$\text{m}\bullet\text{N}$ ( $\text{in}\bullet\text{lb}$ )

