



ELECTRONICS, INC.
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NTE6354 thru NTE6365 Silicon Power Rectifier Diode 300 Amp, DO-9

Features:

- Alloy Diode
- High Voltage Ratings up to 1600 Volts
- High Surge Current Capabilities
- Available in Cathode-to-Case (Standard) or Anode-to-Case (Reverse Polarity) Style

Typical Applications:

- AC/DC Converters
- DC Power Supplies
- Machine Tool Controls

Ratings and Characteristics:

Average Forward Current ($T_C = +75^\circ\text{C Max}$), $I_{F(AV)}$	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 ($T_J = +150^\circ\text{C}$), I_{RRM}	20mA
Maximum Forward Surge Current, I_{FSM}	
50Hz	4100A
60Hz	4250A
Fusing Current, I^2t	
50Hz	180KA ² s
60Hz	165KA ² s
Operating Junction Temperature Range, T_J	-40° to +150°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, $T_C = +75^\circ\text{C}$ Max		300	A	
Maximum Peak One-Cycle Non-Repetitive Surge Current	I_{FSM}	$t = 10\text{ms}$	No voltage reapplied	Sinusoidal half wave, Initial $T_J = T_J$ max	4100	A
		$t = 8.3\text{ms}$			4250	A
		$t = 10\text{ms}$	100% V_{RRM} reapplied		3800	A
		$t = 8.3\text{ms}$			3900	A
Maximum I^2t for Fusing	I^2t	$t = 10\text{ms}$	No voltage reapplied	180000	A^2s	
		$t = 8.3\text{ms}$		165000	A^2s	
		$t = 10\text{ms}$	100% V_{RRM} reapplied	95000	A^2s	
		$t = 8.3\text{ms}$		90000	A^2s	
Maximum $I^2\sqrt{t}$	$I^2\sqrt{t}$	$t = 0.1$ to 10ms , no voltage reapplied		1800000	$\text{A}^2\sqrt{\text{t}}$	
Maximum On-State or Forward Voltage	V_{FM}	Pk = 900A, $T_J = +25^\circ\text{C}$, $t_p = 10\text{ms}$ sine pulse		1.80	V	

Thermal-Mechanical Specifications:

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Operation Junction Temperature	T_J		-40 to + 150	$^\circ\text{C}$
Maximum Internal Thermal Resistance Junction-to-Case	R_{thJC}	DC operation	0.2	K/W
Mounting Torque	T	Non-lubricated threads	37 (327)	N•m (in•lb)
		Lubricated threads	28 (247)	N•m (in•lb)
Approximate Weight	wt		10.2 (290)	Oz. (g)

