ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE5940 thru NTE5953
Silicon Power Rectifier Diode, 15 Amp

Description and Features:

- Low Thermal Impedance
- High Case Temperarure
- Excellent Reliability
- Available in Anode–to–Case or Cathode–to–Case Style

Ratings and Characteristics:

Average Forward Current (T_C = +150°C Max), $I_{F(AV)}$ 15A

Maximum Forward Surge Current, I_{FSM}

- 50Hz 239A
- 60Hz 250A

Fusing Current, I^2t

- 50Hz . . . . . 286A^2s
- 60Hz . . . . . 260A^2s

Fusing Current, $I^2\sqrt{t}$ . . . . . 3870$A^2\sqrt{s}$

Voltage Ratings: (T_J = –65°C to +175°C)

Maximum Repetitive Peak Reverse Voltage, V_{RRM}

- NTE5940, NTE5941* 50V
- NTE5942, NTE5943* 100V
- NTE5944, NTE5945* 200V
- NTE5946, NTE5947* 300V
- NTE5948, NTE5949* 400V
- NTE5950, NTE5951* 500V
- NTE5952, NTE5953* 600V

Maximum Direct Reverse Voltage, V_R

- NTE5940, NTE5941* 50V
- NTE5942, NTE5943* 100V
- NTE5944, NTE5945* 200V
- NTE5946, NTE5947* 300V
- NTE5948, NTE5949* 400V
- NTE5950, NTE5951* 500V
- NTE5952, NTE5953* 600V

Note 1. Cathode to case is standard polarity, * indicates anode to case polarity.

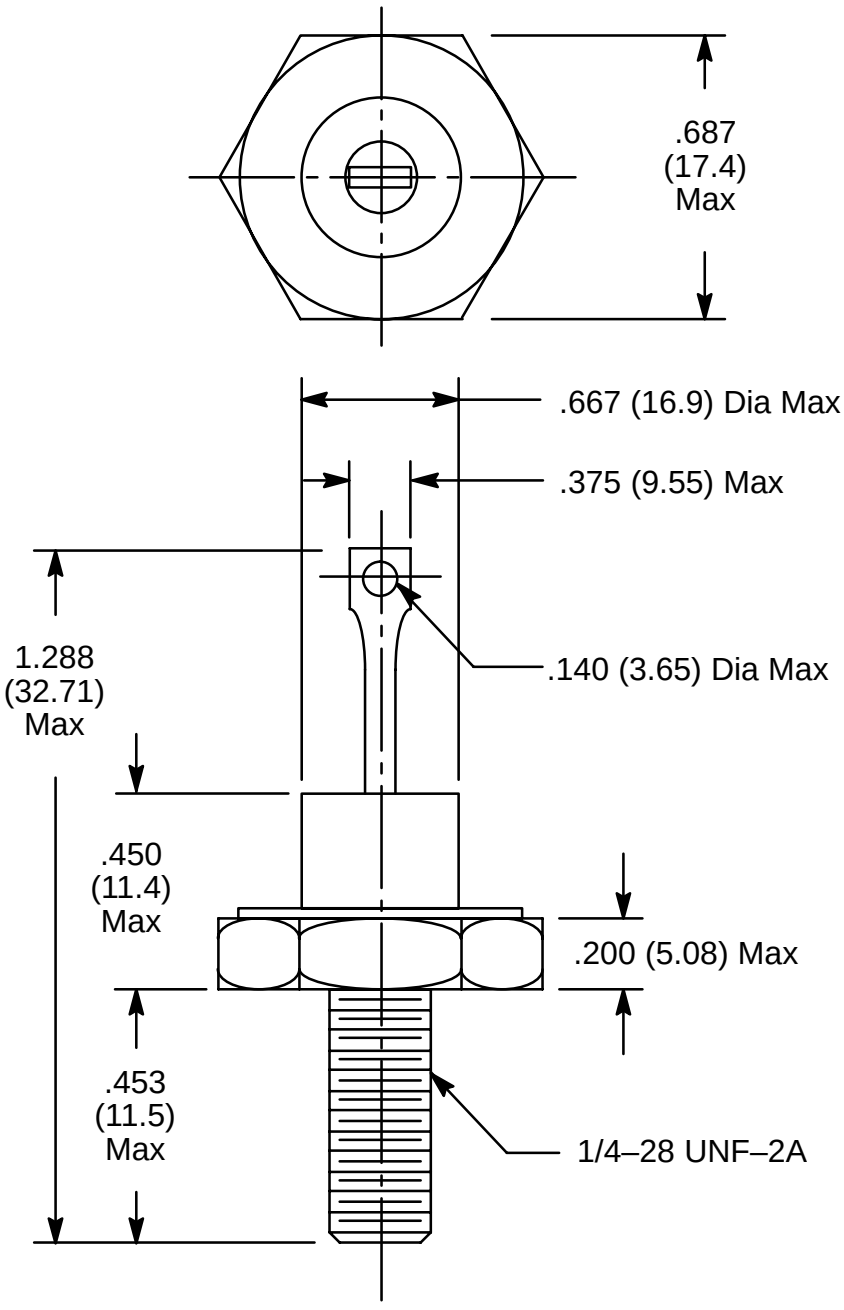
Electrical Specifications:

Parameter	Symbol	Test Conditions		Rating	Unit
Maximum Average Forward Current	$I_{F(AV)}$	180° sinusoidal condition, T_C = +150°C Max		15	A
Maximum Peak One–Cycle Non–Repetitive Surge Current	I_{FSM}	Half cycle 50Hz sine wave or 6ms rectangular pulse	Following any rated load condition and with rated V_{RRM} applied	239	A
		Half cycle 60Hz sine wave at 5ms rectangular pulse		250	A
		Half cycle 50Hz sine wave or 6ms rectangular pulse	Following any rated load condition and with V_{RRM} applied following surge = 0	284	A
		Half cycle 60Hz sine wave at 5ms rectangular pulse		297	A
Maximum I^2t for Fusing	I^2t	t = 10ms	With rated V_{RRM} applied following surge, initial T_J = +150°C	286	A^2s
		t = 8.3ms		260	A^2s
Maximum I^2t for Individual Device Fusing		t = 10ms	With V_{RRM} = 0 following surge, initial T_J = +150°C	403	A^2s
		t = 8.3ms		368	A^2s
Maximum $I^2\sqrt{t}$	$I^2\sqrt{t}$	t = 0.1 to 10ms, V_{RRM} = 0 following surge, Note 2		3870	$A^2\sqrt{t}$
Maximum Peak Forward Voltage	V_{FM}	$I_{F(AV)}$ = 15A (47.1A peak), T_C = +150°C		1.5	V
Maximum Average Reverse Current	$I_{R(AV)}$	Maximum rated $I_{F(AV)}$ and T_C = +150°C		10	mA

Note 2. I^2t for times $t_x = I^2\sqrt{t} \bullet \sqrt{t_x}$.

Thermal–Mechanical Specifications:

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Operation Junction Temperature	T_J		–65 to + 175	°C
Maximum Storage Temperature	T_{stg}		–65 to + 175	°C
Maximum Internal Thermal Resistance Junction–to–Case	R_{thJC}	DC operation	0.65	°C/W
Thermal Resistance, Case–to–Sink	R_{thCS}	Mounting surface flat, smooth and greased	0.25	°C/W
Mounting Torque	T	Non–lubricated threads	2.3 – 3.5 (20 – 30)	m•N (in•lb)
Approximate Weight	wt		28.5 (1)	g (oz)


.687
(17.4)
Max
.667 (16.9) Dia Max
.375 (9.55) Max
1.288
(32.71)
Max
.140 (3.65) Dia Max
.450
(11.4)
Max
.200 (5.08) Max
.453
(11.5)
Max
1/4–28 UNF–2A

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