ELECTRONICS, INC.
44 FARRAND STREET
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NTE6036 & NTE6037
Silicon Power Rectifier Diode, 85 Amp

Features:
- Short Reverse Recovery Time
- Low Stored Charge
- Available in Cathode–to–Case (NTE6036) or Anode–to–Case (NTE6037) Style

Ratings and Characteristics:

Average Forward Current (T_C = +75°C Max), $I_{F(AV)}$ 85A
Maximum Repetitive Peak Reverse Voltage (T_J = –40° to +125°C), V_{RRM} 600V
Maximum Non–Repetitive Peak Reverse Voltage (T_J = +25° to +125°C, $t_p \le 5$ms), V_{RSM} . . . 700V
Maximum Reverse Current (At Rated V_R), I_R
- T_J = +25°C 0.1mA
- T_J = +125°C 20mA

Maximum Forward Surge Current, I_{FSM}
- 50Hz 1100A
- 60Hz 1151A

Fusing Current, I^2t
- 50Hz . . . . . 6050A^2s
- 60Hz . . . . . 5523A^2s

Fusing Current, $I^2\sqrt{t}$ . . . . . 85560$A^2\sqrt{s}$
Operating Junction Temperature Range, T_J . . . . . –40° to +125°C
Storage Temperature range, T_{stg} . . . . . –40° to +150°C
Thermal Resistance, Junction–to–Case (DC Operation), R_{thJC} . . . . . 0.30°C/W
Thermal Resistance, Case–to–Sink (Surface flat, smooth, and greased), R_{thCS} . . . . . 0.25°C/W
Maximum Mounting Torque (Non–lubricated threads), T . . . . . 22 (2.5) in•lb (m•N)

Electrical Specifications:

Parameter	Symbol	Test Conditions		Rating	Unit
Maximum Average Forward Current	$I_{F(AV)}$	180° sinusoidal condition, T_C = +75°C Max		85	A
Maximum Peak One–Cycle Non–Repetitive Surge Current	I_{FSM}	t = 10ms	Half sinewave current, rated V_{RRM} reapplied, initial T_J = +125°C	1100	A
		t = 8.3ms		1151	A
		t = 10ms	Half sinewave current, no voltage reapplied, initial T_J = +125°C	1308	A
		t = 8.3ms		1369	A
Maximum I^2t for Fusing	I^2t	t = 10ms	Rated V_{RRM} reapplied, initial T_J = +125°C	6050	A^2s
		t = 8.3ms		5523	A^2s
Maximum I^2t for Individual Device Fusing		t = 10ms	No voltage reapplied, initial T_J = +125°C	8556	A^2s
		t = 8.3ms		7810	A^2s
Maximum $I^2\sqrt{t}$	$I^2\sqrt{t}$	t = 0.1 to 10ms, no voltage reapplied, Note 1		85560	$A^2\sqrt{t}$
Maximum Peak Forward Voltage	V_{FM}	T_J = +25°C, I_{FM} = 267A		1.75	V
Maximum Reverse Recovery Time	t_{rr}	T_J = +25°C, I_F = 1A to V_R = 30V, $-dI_F/dt$ = 100A/µs		120	ns
		T_J = +25°C, I_F = 267A, $-dI_F/dt$ = 25A/µs		500	ns
Maximum Reverse Recovery Charge	Q_{RR}	T_J = +25°C, I_F = 1A to V_R = 30V, $-dI_F/dt$ = 100A/µs		340	nC
		T_J = +25°C, I_F = 267A, $-dI_F/dt$ = 25A/µs		1300	nC

Note 1. I^2t for time $t_x = I^2\sqrt{t} \bullet \sqrt{t_x}$.

