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

NTE6111 & NTE6114
Silicon Power Rectifier Diode, 1100 Amp

Features:
- Wide Current Range
- High Voltage Rating
- High Surge Current Capabilities

Applications:
- Converters
- Power Supplies
- Machine Tool Controls
- High Power Drives
- Medium Traction Applications

Absolute Maximum Ratings:

Maximum Repetitive Peak Reverse Voltage, V_{RRM}
- NTE6111 . . . . . 600V
- NTE6114 . . . . . 1600V

Maximum Non–Repetitive Peak Reverse Voltage, V_{RSM}
- NTE6111 . . . . . 700V
- NTE6114 . . . . . 1700V

Maximum Reverse Current (T_J = +180°C), I_{RRM} 15mA

Operating Junction Temperature Range, T_J . . . . . –40° to +180°C

Storage Temperature Range, T_{stg} . . . . . –55° to +200°C

Maximum Thermal Resistance, Junction–to–Heatsink (DC Operation), $R_{th(j–hs)}$
- Single Side Cooled . . . . . 0.076°C/W
- Double Side Cooled . . . . . 0.038°C/W

Maximum Mounting Force (±10%), F . . . . . 9800 (1000) N (Kg)

Electrical Specifications:

Parameter	Symbol	Test Conditions		Rating	Unit
Maximum Average Forward Current	$I_{F\ (AV)}$	180° condition, Half sine wave	Double side cooled, T_C = +55°C	1400	A
			Single side cooled, T_C = +85°C	795	A

Electrical Specifications (Cont'd):

Parameter	Symbol	Test Conditions		Rating	Unit
Maximum RMS Forward Current	$I_{F(RMS)}$	@ +25°C heatsink temperature double side cooled		2500	A
Maximum Peak One–Cycle Forward Non–Repetitive Surge Current	I_{FSM}	t = 10ms	Sinusoidal Halfwave, 100% V_{RRM} Reapplied, Initial T_J = +180°C	10930	A
		t = 8.3ms		11450	A
		t = 10ms	Sinusoidal Halfwave, No Voltage Reapplied, Initial T_J = +180°C	13000	A
		t = 8.3ms		13600	A
Maximum I^2t for Fusing	I^2t	t = 10ms	Sinusoidal Halfwave, 100% V_{RRM} Reapplied, Initial T_J = +180°C	598	A^2s
		t = 8.3ms		546	A^2s
		t = 10ms	Sinusoidal Halfwave, No Voltage Reapplied, Initial T_J = +180°C	846	A^2s
		t = 8.3ms		772	A^2s
Maximum $I^2\sqrt{t}$ for Fusing	$I^2\sqrt{t}$	t = 0.1 to 10ms, no voltage reapplied		8460	$A^2\sqrt{t}$
Threshold Voltage, Low Level	$V_{F(TO)1}$	T_J = +180°C, (16.7% x π x $I_{F(AV)}$ < I < π x $I_{F(AV)}$)		0.78	V
Threshold Voltage, High Level	$V_{F(TO)2}$	T_J = +180°C, (I > π x $I_{F(AV)}$)		0.94	V
Forward Slope Resistance, Low Level	r_{f1}	T_J = +180°C, (16.7% x π x $I_{F(AV)}$ < I < π x $I_{F(AV)}$)		0.35	mΩ
Forward Slope Resistance, High Level	r_{f2}	T_J = +180°C, (I > π x $I_{F(AV)}$)		0.26	mΩ
Maximum Forward Voltage Drop	V_{FM}	T_J = +180°C, I_{pk} = 1500A, t_p = 10ms		1.31	V