

**NTE5926, NTE5927,  
 NTE6020 thru NTE6045  
 Industrial Silicon Rectifier, 60A**

**Features:**

- Low Leakage Current
- Good Surge Capability up to 1000A
- Availavle in Standard and Reverse Polarity

**Absolute Maximum Ratings:** ( $T_J = -65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$ )

<b>Maximum Repetitive Peak Reverse Voltage, <math>V_{RRM}</math></b>	
NTE6020, NTE6021*	50V
NTE6022, NTE6023*	100V
NTE6026, NTE6027*	200V
NTE6030, NTE6031*	300V
NTE6034, NTE6035*	400V
NTE6038, NTE6039*	500V
NTE6040, NTE6041*	600V
NTE6042, NTE6043*	800V
NTE6044, NTE6045*	1000V
NTE5926, NTE5927*	1200V
<b>Maximum Direct Reverse Voltage, <math>V_R</math></b>	
NTE6020, NTE6021*	40V
NTE6022, NTE6023*	80V
NTE6026, NTE6027*	160V
NTE6030, NTE6031*	240V
NTE6034, NTE6035*	320V
NTE6038, NTE6039*	400V
NTE6040, NTE6041*	480V
NTE6042, NTE6043*	800V
NTE6044, NTE6045*	1000V
NTE5926, NTE5927*	1200V
Maximum Operating Junction Temperature Range, $T_J$	$-65^{\circ}$ to $+175^{\circ}\text{C}$
Maximum Storage Temperature Range, $T_{stg}$	$-65^{\circ}$ to $+200^{\circ}\text{C}$
Maximum Internal Thermal Resistance, Junction-to-Case (DC operation), $R_{thJC}$	0.65°C/W
Thermal Resistance, Case-to-Sink (Mounting surface flat, smooth, and greased), $R_{thCS}$	0.25°C/W
<b>Mounting Torque, T</b>	
Minimum	2.3 (20) N•m (lbf-in)
Maximum	3.4 (30) N•m (lbf-in)
Approximate Weight, wt	17 (0.6) g (oz)

Note 1. \* Indicates Anode to Case Polarity

### Electrical Characteristics:

Parameter	Symbol	Test Conditions	Rating	Unit	
Maximum Average Forward Current	$I_{F(AV)}$	$T_C = +115^\circ\text{C}$ , 1-phase operation, $180^\circ$ condition	60	A	
Maximum Peak One-Cycle Non-Repetitive Surge Current	$I_{FSM}$	Half cycle 50Hz sine wave or 6ms rectangle pulse	Following any rated load condition and with rated $V_{RRM}$ applied	670	A
		Half cycle 60Hz sine wave or 5ms rectangle pulse		700	A
		Half cycle 50Hz sine wave or 6ms rectangle pulse	Following any rated load condition and with rated $V_{RRM}$ applied following surge = 0	795	A
		Half cycle 60Hz sine wave or 5ms rectangle pulse		830	A
Maximum $I^2t$ for Fusing	$I^2t$	t = 10ms	With rated $V_{RRM}$ applied following surge, initial $T_J = T_{Jmax}$	2250	$A^2s$
		t = 8.3ms		2050	$A^2s$
Maximum $I^2t$ for Individual Device Fusing	$I^2t$	t = 10ms	With $V_{RRM} = 0$ following surge, initial $T_J = T_{Jmax}$	3150	$A^2s$
		t = 8.3ms		2900	$A^2s$
Maximum $I^2\sqrt{t}$ for Individual Device Fusing	$I^2\sqrt{t}$	t = 0.1 to 10ms, $V_{RRM} = 0$ following surge, Note 2	31,500	$A^2/\sqrt{s}$	
Maximum Peak Forward Voltage	$V_{FM}$	$I_{F(AV)} = 60\text{A}$ (188A peak), $T_C = 115^\circ\text{C}$	1.4	V	
Maximum Average Reverse Current	$I_{R(AV)}$	Maximum rated $I_{F(AV)}$ and $V_{RRM}$ , $T_C = 115^\circ\text{C}$	10	mA	

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

