

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 $+175^{\circ}\text{C}$)

Maximum Repetitive Peak Reverse Voltage, V_{RRM}

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

Maximum Direct Reverse Voltage, V_R

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° to $+175^{\circ}\text{C}$

Maximum Storage Temperature Range, T_{stg} -65° 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

Mounting Torque, T

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° 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	$t = 10\text{ms}$	With rated V_{RRM} applied following surge, initial $T_J = T_{J\text{max}}$	2250	A^2s
		$t = 8.3\text{ms}$		2050	A^2s
Maximum I^2t for Individual Device Fusing		$t = 10\text{ms}$	With $V_{RRM} = 0$ following surge, initial $T_J = T_{J\text{max}}$	3150	A^2s
		$t = 8.3\text{ms}$		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	$\text{A}^2\sqrt{\text{s}}$
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 $t_x = I^2/\bar{t} \bullet \sqrt{t_x}$.

