



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE627 & NTE628 Silicon Rectifier Fast Recovery, Dual, Center Tap TO-220 Type Package

Description:

The NTE627 and NTE628 are dual, fast recovery silicon rectifiers in a TO-220 type package designed for special applications such as DC power supplies, inverters, converters, ultrasonic systems, choppers and low RF interference.

Features:

- Low Forward Voltage Drop
- High Switching Capability, Low Switching Noise
- High Voltage Capability
- Low Power Loss, High Reliability
- High Surge Current Capability
- Low Reverse Leakage Current

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified. Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%)

Peak Repetitive Reverse Voltage, V_{RRM}	
NTE627	200V
NTE628	600V
Working Peak Reverse Voltage, V_{RWM}	
NTE627	200V
NTE628	600V
DC Blocking Voltage, V_R	
NTE627	200V
NTE628	600V
RMS Reverse Voltage, $V_{R(RMS)}$	
NTE627	140V
NTE628	420V
Average Rectifier Forward Current (Rated V_R), $I_{F(AV)}$	
Per Diode	
NTE627 ($T_C = +100^\circ\text{C}$)	8A
NTE628 ($T_C = +150^\circ\text{C}$)	6A
Total Device	
NTE627 ($T_C = +100^\circ\text{C}$)	16A
NTE628 ($T_C = +150^\circ\text{C}$)	12A
Non-Repetitive Peak Surge Current, I_{FSM}	
(8.3ms Single half Sine-Wave Superimposed on Rated Load)	
NTE627	200A
NTE628	120A
Operating Junction Temperature Range (Reverse Voltage Applied), T_J	
NTE627	-55° to +150°C
NTE628	-65° to +175°C

Absolute Maximum Ratings (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified. Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%)

Operating Junction Temperature Range (Reverse Voltage Applied), T_J

- NTE627 -55° to $+150^\circ\text{C}$
- NTE628 -65° to $+175^\circ\text{C}$

Storage Temperature Range (Reverse Voltage Applied), T_{stg}

- NTE627 -55° to $+150^\circ\text{C}$
- NTE628 -65° to $+175^\circ\text{C}$

Thermal Resistance, Per Diode (**NTE627 Only**)

- Junction-to-Ambient, R_{thJA} 60°C/W
- Junction-to-Case, R_{thJC} 3.0°C/W

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified. Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Instantaneous Forward Voltage NTE627	V_F	$I_F = 6\text{A}$	-	-	0.95	V
NTE628			-	-	1.3	V
Instantaneous Reverse Current NTE627	I_R	At Rated V_R , $T_C = +25^\circ\text{C}$	-	-	10	μA
NTE628		At Rated V_R , $T_C = +100^\circ\text{C}$	-	-	500	μA
			-	-	250	μA
Reverse Recovery Time NTE627	t_{rr}	$I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $i_{rr} = 0.25\text{A}$	-	-	35	ns
NTE628			-	-	250	ns
Junction Capacitance (NTE627 Only)	C_J	Note 1	-	85	-	pF

Note 1. Measured at 1Mhz and applied reverse voltage of 4VDC.

