



ELECTRONICS, INC.

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## NTE6246 & NTE6247 Ultrafast Switchmode Power Rectifier, 30 Amp

### Features:

- Low Forward Drop
- Current Derating Specified at both Case and Ambient Temperatures

### Applications:

- Switching Power Supplies
- Inverters
- For use as Free Wheeling Diodes

### Absolute Maximum Ratings:

Peak Repetitive Reverse Voltage, $V_{RRM}$	
NTE6246 .....	200V
NTE6247 .....	600V
Working Peak Reverse Voltage, $V_{RWM}$	
NTE6246 .....	200V
NTE6247 .....	600V
DC Blocking Voltage, $V_R$	
NTE6246 .....	200V
NTE6247 .....	600V
Average Rectified Forward Current, (Rated $V_R$ ), $I_F(AV)$	
Per Leg ( $T_C = +150^\circ C$ (NTE6246), $T_C = +145^\circ C$ (NTE6247)) .....	15A
Per Device ( $T_C = +150^\circ C$ (NTE6246), $T_C = +145^\circ C$ (NTE6247)) .....	30A
Peak Repetitive Forward Current, Per Leg, $I_{FRM}$	
(Rated $V_R$ , Square Wave, 20kHz), $T_C = +150^\circ C$ (NTE6246), $T_C = +145^\circ C$ (NTE6247) .	30A
Nonrepetitive Peak Surge Current, $I_{FSM}$	
(Surge applied at rated load conditions halfwave, single phase, 60Hz) Per Leg	
NTE6246 .....	200A
NTE6247 .....	150A
Operating Junction Temperature Range, $T_J$ .....	$-65^\circ$ to $+175^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+175^\circ C$
Maximum Thermal Resistance (Per Diode Leg)	
Junction-to-Case, $R_{thJC}$ .....	1.5°C/W
Junction-to-Ambient, $R_{thJA}$ .....	40°C/W

**Electrical Characteristics (Per Diode Leg):**

Maximum Instantaneous Forward Voltage,  $v_F$

( $i_F = 15A$ ,  $T_C = +150^\circ C$ , Note 1)

NTE6246 ..... 0.85V

NTE6247 ..... 1.2V

( $i_F = 15A$ ,  $T_C = +25^\circ C$ , Note 1)

NTE6246 ..... 1.05V

NTE6247 ..... 1.5V

Maximum Instantaneous Reverse Current,  $i_R$

(Rated DC Voltage,  $T_C = +150^\circ C$ , Note 1)

NTE6246 ..... 500 $\mu A$

NTE6247 ..... 1000 $\mu A$

(Rated DC Voltage,  $T_C = +25^\circ C$ , Note 1) ..... 10 $\mu A$

Maximum Reverse Recovery Time,  $t_{rr}$

( $I_F = 1A$ ,  $di/dt = 50A/\mu s$ )

NTE6246 ..... 35ns

NTE6247 ..... 60ns

Note 1. Pulse Test: Pulse Width = 300 $\mu s$ , Duty Cycle  $\leq 2\%$ .

