



NEC

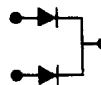
NEW ENGLAND SEMICONDUCTOR

NSG2603
NSG2604
NSG2605
NSG2606

POWER RECTIFIERS

- Ultra-Fast Rectifiers
- Low Forward Voltage
- Matched Dual Die Construction
- Center Tap
- 150°C Operating Temperature

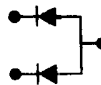
Common Cathode



NSG2603 - NSG2605

ULTRA FAST
RECTIFIERS
15 AMPERES

Common Anode



NSG2606

TO-258AA



MAXIMUM RATINGS (PER LEG)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage			Volts
NSG2603	V_{RRM}	100	
NSG2604	V_{RRM}	300	
NSG2605 - NSG2606	V_{RRM}	600	
Average Rectified Forward Current (Rated V_R) $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	15	Amps
Peak Repetitive Forward Current, Per Leg (Rated V_R , Square Wave, 20 kHz) $T_C = 150^\circ\text{C}$	I_{FRM}	30	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	150	Amps
Operating Junction Temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Thermal Resistance -- Junction to Case	$R_{\theta JC}$	1.6	$^\circ\text{C/W}$
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ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) ($I_F = 15$ Amps, $T_J = 25^\circ\text{C}$)	V_F		Volts
NSG2603		1.1	
NSG2604		1.35	
NSG2605		1.6	
NSG2606		1.71	
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_J = 25^\circ\text{C}$)	I_R	20	μA
NSG2603 - 2604		1.0	mA
(Rated dc Voltage, $T_J = 125^\circ\text{C}$)			
(Rated dc Voltage, $T_J = 25^\circ\text{C}$)	I_R	20	μA
NSG2605 - 2606		2.0	mA
(Rated dc Voltage, $T_J = 125^\circ\text{C}$)			
Reverse Recovery Time/Diode ($I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$)	t_{rr}	35	ns
NSG2603		50	ns
($I_{REC} = 0.25\text{A}$)			
NSG2604 - 2606			
($T_A = 25^\circ\text{C}$)			

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

NEW ENGLAND SEMICONDUCTOR

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T4-4.8-860-1205 REV: --