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NTE5818 thru NTE5825 Silicon Power Rectifier Fast Recovery, 12 Amp, DO4

Description:

The NTE5818 through NTE5825 are silicon fast recovery rectifiers in a DO4 type package having a typical recovery time of 150ns providing high efficiency at frequencies to 250kHz. Typical applications include DC power supplies, inverters, converters, ultrasonic systems, choppers, low RF interference, sonar power supplies, and free wheeling diodes.

Absolute Maximum Ratings: (Note 1)

Peak Repetitive Reverse Voltage, V_{RRM}	
NTE5818, NTE5819*	200V
NTE5820, NTE5821*	400V
NTE5822, NTE5823*	600V
NTE5824, NTE5825*	1000V
Working Peak Reverse Voltage, V_{RWM}	
NTE5818, NTE5819*	200V
NTE5820, NTE5821*	400V
NTE5822, NTE5823*	600V
NTE5824, NTE5825*	1000V
DC Blocking Voltage, V_R	
NTE5818, NTE5819*	200V
NTE5820, NTE5821*	400V
NTE5822, NTE5823*	600V
NTE5824, NTE5825*	1000V
Non-Repertive Peak Reverse Voltage, V_{RSM}	
NTE5818, NTE5819*	250V
NTE5820, NTE5821*	450V
NTE5822, NTE5823*	660V
NTE5824, NTE5825*	1100V
RMS Reverse Voltage, $V_{R(RMS)}$	
NTE5818, NTE5819*	140V
NTE5820, NTE5821*	280V
NTE5822, NTE5823*	420V
NTE5824, NTE5825*	700V
Average Rectified Forward Current (Single Phase, Resistive Load, $T_C = +100^\circ C$), I_O	12A
Non-Repertive Peak Surge Current, I_{FSM}	
(Surge applied at rated load conditions, One cycle)	200A
Operating Junction Temperature Range, T_J	-65° to +150°C
Storage Temperature Range, T_{stg}	-65° to +175°C
Thermal Resistance, Junction-to-Case, R_{thJC}	2.0°C/W

Note 1. Standard polarity is cathode to case, (*) indicated anode to case.

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Instantaneous Forward Voltage	v_F	$i_F = 38A, T_J = +150^\circ C$	-	1.2	1.5	V	
Forward Voltage	V_F	$I_F = 12A, T_C = +25^\circ C$	-	1.0	1.4	V	
Reverse Current	I_R	Rated DC Voltage	$T_C = +25^\circ C$	-	10	25	μA
			$T_C = +100^\circ C$	-	0.5	3.0	mA

Reverse Recovery Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Recovery Time	t_{rr}	$I_F = 1A$ to $V_R = 30V$	-	150	200	ns
		$I_{FM} = 36A, di/dt = 25A/\mu s$	-	200	400	ns
Reverse Recovery Current	$I_{RM(REC)}$	$I_F = 1A$ to $V_R = 30V$	-	-	2	A

