

## NTE2327

### Silicon NPN Transistor

### High Voltage, High Speed Switch

#### **Description:**

The NTE2327 is a silicon NPN transistor in a TO126 type package designed for use in converters, inverters, switching regulators, motor control systems and switching applications.

#### **Absolute Maximum Ratings:**

Collector–Emitter Voltage ( $V_{BE} = 0$ , Peak value), $V_{CESM}$ .....	1000V
Collector–Emitter Voltage (Open base), $V_{CEO}$ .....	450V
Emitter–Base Voltage (Open Collector), $V_{EBO}$ .....	5V
Collector Current, $I_C$	
Continuous .....	0.5A
Peak ( $t_p = 2ms$ ) .....	1A
Base Current, $I_B$	
Continuous .....	0.2A
Peak .....	0.3A
Reverse Base Current (Peak Value, Note 1), $-I_{BM}$ .....	0.3A
Total Power Dissipation ( $T_{MB} \leq +60^\circ C$ ), $P_{tot}$ .....	20W
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	-65° to +150°C
Thermal Resistance, Junction–to–Mounting Base, $R_{thJMB}$ .....	4.5K/W
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....	100K/W

Note 1. Turn–Off current.

#### **Electrical Characteristics:** ( $T_J = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current (Note 2)	$I_{CES}$	$V_{CEM} = 1000V, V_{BE} = 0$	–	–	100	$\mu A$
		$V_{CEM} = 1000V, V_{BE} = 0, T_J = +125^\circ C$	–	–	1	mA
Emitter Cutoff Current	$I_{EBO}$	$I_C = 0, V_{EB} = 5V$	–	–	1	mA
DC Current Gain	$h_{FE}$	$I_C = 50mA, V_{CE} = 5V$	–	50	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.1A, I_B = 10mA$	–	–	0.8	V
		$I_C = 0.2A, I_B = 20mA$	–	–	1.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 0.2A, I_B = 20mA$	–	–	1.0	V
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100mA, I_{Boff} = 0, L = 25mH$	450	–	–	V
Transition Frequency	$f_T$	$I_C = 50mA, V_{CE} = 10V, f = 1MHz$	–	20	–	MHz
Turn–On Time	$t_{on}$	$I_{Con} = 0.2A, V_{CC} = 250V,$ $I_{Bon} = 20mA, -I_{Boff} = 40mA$	–	0.25	0.50	$\mu s$
Storage Time	$t_s$		–	2.0	3.5	$\mu s$
Fall Time	$t_f$		–	0.4	1.3	$\mu s$

Note 2. Measured with a half sine–wave voltage.

