

## NTE3320 Insulated Gate Bipolar Transistor N-Channel Enhancement Mode, High Speed Switch

**Features:**

- High Input Impedance
- High Speed
- Low Saturation Voltage
- Enhancement Mode

**Applications:**

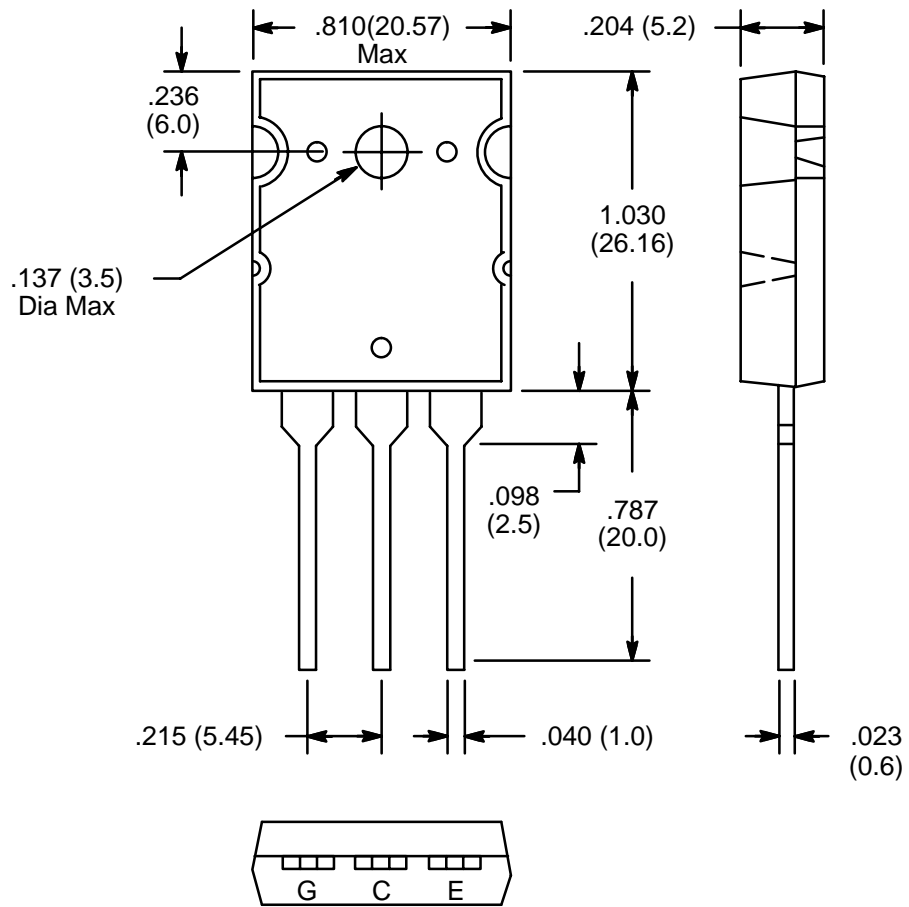
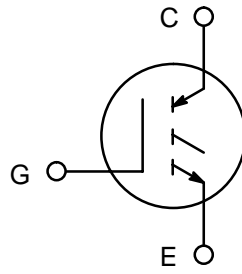
- High Power Switching

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Collector–Emitter Voltage, $V_{CES}$ .....	600V
Gate–Emitter Voltage, $V_{GES}$ .....	$\pm 20\text{V}$
Collector Current, $I_C$	
DC .....	50A
Pulse (1ms) .....	100A
Collector Power Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	200W
Operating Junction Temperature, $T_J$ .....	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	$0.625^\circ\text{C/W}$
Screw Torque .....	0.8Nm

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate Leakage Current	$I_{GES}$	$V_{GE} = \pm 20\text{V}, V_{CE} = 0$	–	–	$\pm 500$	nA
Collector Cutoff Current	$I_{CES}$	$V_{CE} = 600\text{V}, V_{GE} = 0$	–	–	1.0	mA
Collector–Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C = 2\text{mA}, V_{GE} = 0$	600	–	–	V
Gate–Emitter Cutoff Voltage	$V_{GE(off)}$	$I_C = 50\text{mA}, V_{CE} = 5\text{V}$	3.0	–	6.0	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{A}, V_{GE} = 15\text{V}$	–	3.0	4.0	V
Input Capacitance	$C_{ies}$	$V_{CE} = 10\text{V}, V_{GE} = 0, f = 1\text{MHz}$	–	3500	–	pF
Rise Time	$t_r$	$V_{CC} = 300\text{V}$	–	0.30	0.60	$\mu\text{s}$
Turn–On Time	$t_{on}$		–	0.40	0.80	$\mu\text{s}$
Fall Time	$t_f$		–	0.15	0.35	$\mu\text{s}$
Turn–Off Time	$t_{off}$		–	0.50	1.00	$\mu\text{s}$



**Note:** Collector connected to heat sink.