



ELECTRONICS, INC.
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NTE3322

Insulated Gate Bipolar Transistor N-Channel Enhancement Mode, High Speed Switch TO3P Type Package

Features:

- Enhancement Mode Type
- FRD Included Between Emitter and Collector
- High Speed
- Low Saturation Voltage

Applications:

- High Power Switching

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

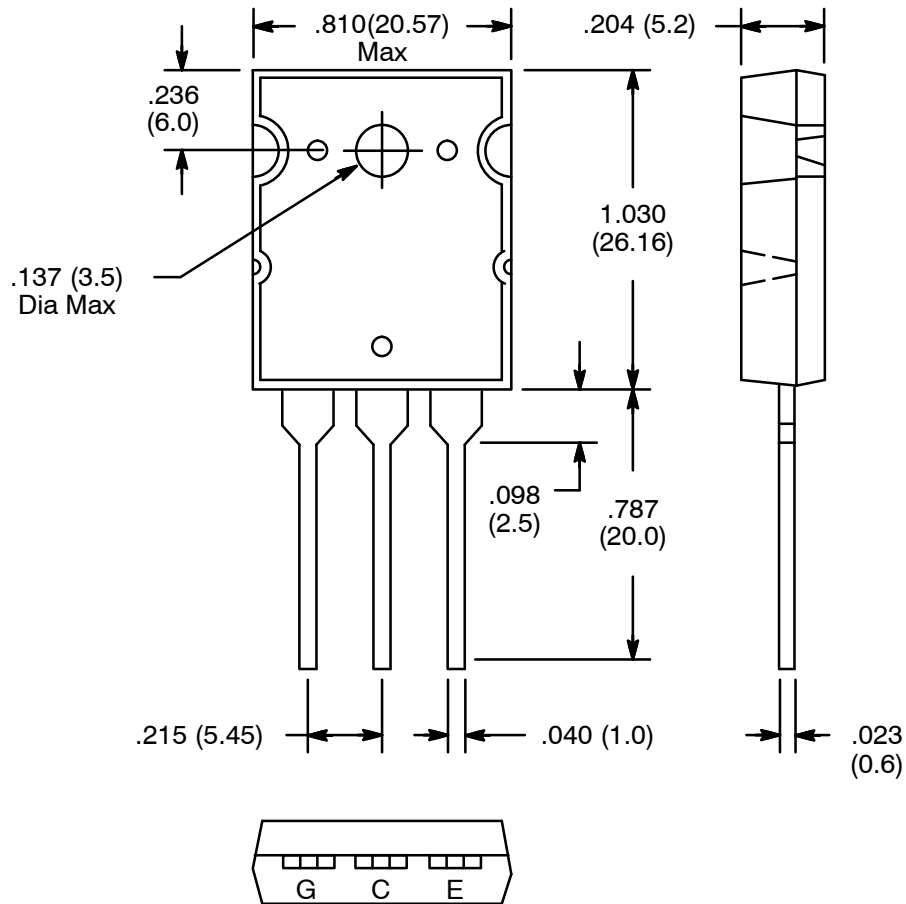
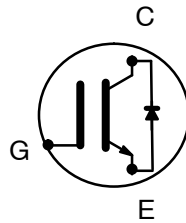
Collector-Emitter Voltage, V_{CES}	900V
Gate-Emitter Voltage, V_{GES}	$\pm 25\text{V}$
Collector Current, I_C	
DC	60A
Pulse (1ms)	120A
Emitter-Collector Forward Current, I_{EC}	
DC	15A
Pulse (1ms)	120A
Collector Power Dissipation ($T_C = +25^\circ\text{C}$), P_C	170W
Operating Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	
IGBT	0.74°C/W
Diode	4.0°C/W
Screw Torque	$0.8\text{N}\cdot\text{m}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate Leakage Current	I_{GES}	$V_{GE} = \pm 25\text{V}, V_{CE} = 0$	-	-	± 500	nA
Collector Cutoff Current	I_{CES}	$V_{CE} = 900\text{V}, V_{GE} = 0$	-	-	1.0	mA
Gate-Emitter Cutoff Voltage	$V_{GE(off)}$	$I_C = 60\text{mA}, V_{CE} = 5\text{V}$	3.0	-	6.0	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{A}, V_{GE} = 15\text{V}$	-	1.6	2.2	V
		$I_C = 60\text{A}, V_{GE} = 15\text{V}$	-	2.1	2.7	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{ies}	$V_{CE} = 10\text{V}, V_{GE} = 0, f = 1\text{MHz}$	-	3800	-	pF
Rise Time	t_r	$V_{CC} = 600\text{V}$	-	0.35	0.60	μs
Turn-On Time	t_{on}		-	0.46	0.75	μs
Fall Time	t_f		-	0.25	0.40	μs
Turn-Off Time	t_{off}		-	0.60	0.70	μs
Emitter-Collector Forward Voltage	V_{ECF}	$I_{EC} = 15\text{A}, V_{GE} = 0$	-	1.5	2.0	V
Reverse Recovery Time	t_{rr}	$I_F = 15\text{A}, V_{GE} = 0, di/dt = -20\text{A}/\mu\text{s}$	-	0.7	2.5	μs



Note: Collector connected to heat sink.

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