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NTE2347 Silicon NPN Transistor General Purpose, Medium Power

Description:

The NTE2347 is a silicon NPN transistor in a TO39 type package designed for use in high current, fast switching applications and for power amplifiers.

Absolute Maximum Ratings:

Collector–Base Voltage ($I_E = 0$), V_{CBO}	150V
Collector–Emitter Voltage ($I_B = 0$), V_{CEO}	80V
Emitter–Base Voltage ($I_C = 0$), V_{EBO}	6V
Collector Current, I_C	5A
Total Power Dissipation, P_{tot}	
$T_A \leq +25^\circ\text{C}$	1W
$T_C \leq +25^\circ\text{C}$	7W
$T_C \leq +100^\circ\text{C}$	4W
Junction Temperature, T_J	+200°C
Storage Temperature Range, T_{stg}	-65° to +200°C
Thermal Resistance, Junction–to–Case, R_{thJC}	25°C/W
Thermal Resistance, Junction–to–Ambient, R_{thJA}	175°C/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CES}	$V_{CE} = 150\text{V}, V_{BE} = 0$	–	–	1	mA
		$V_{CE} = 100\text{V}, V_{BE} = 0$	–	–	1	μA
		$V_{CE} = 100\text{V}, V_{BE} = 0, T_C = +150^\circ\text{C}$	–	–	100	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$	–	–	1	mA
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 50\text{mA}, I_B = 0$, Note 1	80	–	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 500\text{mA}$, Note 1	–	–	1	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 500\text{mA}$, Note 1	–	–	1.6	V
DC Current Gain	h_{FE}	$I_C = 2\text{A}, V_{CE} = 2\text{V}$, Note 1	40	–	120	
		$I_C = 2\text{A}, V_{CE} = 2\text{V}, T_C = -55^\circ\text{C}$, Note 1	15	–	–	
Transition Frequency	f_T	$I_C = 500\text{mA}, V_{CE} = 5\text{V}$	50	–	–	MHz
Collector–Base Capacitance	C_{CBO}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	–	–	80	pF
Turn–On Time	t_{on}	$V_{CC} = 20\text{V}, I_C = 500\text{mA}, I_{B1} = 500\text{mA}$	–	–	0.35	μs
Storage Time	t_s	$V_{CC} = 20\text{V}, I_C = 5\text{A}, I_{B1} = -I_{B2} = 500\text{mA}$	–	–	0.35	μs
Fall Time	t_f		–	–	0.3	μs

Note 1. Pulse Test: Pulse Duration = 300μs, Duty Cycle = 1.5%.

