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NTE306

Silicon NPN Transistor

AM, CB Transmitter Driver

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

Collector-Emitter Voltage, V_{CEO}	50V
Collector-Base Voltage, V_{CB}	100V
Emitter-Base Voltage, V_{EB}	6V
Collector Current, I_C	1.5A
Base Current, I_B	0.5A
Total Device Dissipation, P_C	
$T_a = +25^\circ\text{C}$	950mW
$T_c = +25^\circ\text{C}$	7.9W
Operating Junction Temperature Range, T_J	-50° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-50° to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	12°C/W

Electrical Characteristics: ($T_C = +75^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Cutoff Current	I_{CBO}	$V_{CB} = 25\text{V}, I_E = 0$	–	–	0.2	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$	–	–	0.2	μA
Base-Emitter Voltage	V_{BE}	$V_{CE} = 6\text{V}, I_C = 5\text{mA}$	–	–	0.7	V
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 2\text{mA}$	50	–	–	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 50\text{mA}$	–	–	0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		–	–	1.0	V
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 100\text{mA}$	98	–	649	
		$V_{CE} = 1\text{V}, I_C = 1\text{A}$	70	–	–	
Small Signal Current Gain	$ h_{FE} $	$V_{CB} = 2\text{V}, I_E = 10\text{mA}, f = 10\text{MHz}$	–	18	–	db
Collector Capacitance	C_C	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	–	16	40	pF

