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2N3702

Silicon PNP Transistor

Audio Power Amplifier

TO-92 Type Package

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

Collector-Base Voltage, V_{CBO}	40V
Collector-Emitter Voltage, V_{CEO}	25V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	500mA
Collector Dissipation, P_C	625mW
Derate above $+25^\circ\text{C}$	5mW/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-55° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	83.3 $^\circ\text{C/W}$
Thermal Resistance, Junction-to-Ambient, R_{thJA}	200 $^\circ\text{C/W}$

Note 1. These ratings are limiting values above which the serviceability of the device may be impaired and are based on maximum temperature of $+150^\circ\text{C}$.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\text{mA}$, $I_E = 0$	40	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\mu\text{A}$, $I_B = 0$, Note 2	25	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	5	—	—	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 20\text{V}$, $I_E = 0$	—	—	100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 3\text{V}$, $I_C = 0$	—	—	100	nA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$, Note 2	60	—	300	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}$, $I_B = 5\text{mA}$, Note 2	—	—	0.25	V
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$, Note 2	0.6	—	1	V
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1.0\text{MHz}$	—	—	12	pF
Current Gain – Bandwidth Product	f_T	$I_C = 50\text{mA}$, $V_{CE} = 5\text{V}$	100	—	—	MHz

Note 2. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

