

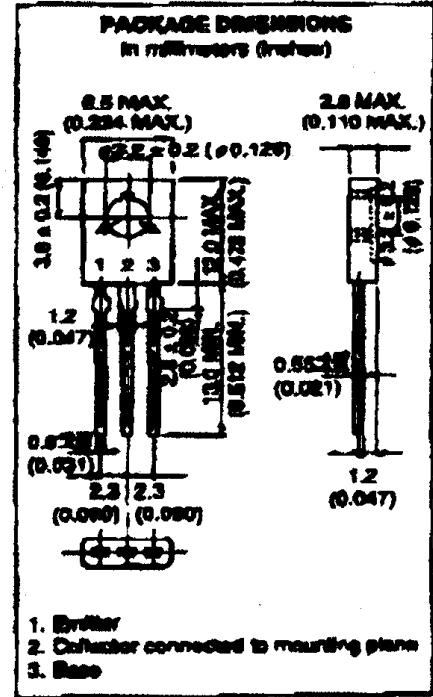
AUDIO FREQUENCY AMPLIFIER, SWITCHING NPN SILICON EPITAXIAL TRANSISTORS

FEATURES

- Low $V_{ce(sat)}$
 $V_{ce(sat)} = 0.15 \text{ V Max (} @ I_c/I_b = 1.0 \text{ A/50 mA)}$
- High DC Current Gain
 $h_{FE} \approx 150 \text{ to } 600 \text{ (} @ V_{CE} = 2.0 \text{ V, } I_c = 1.0 \text{ A)}$

ABSOLUTE MAXIMUM RATINGS

Maximum Voltage and Current ($T_A = 25^\circ\text{C}$)		
Collector to Base Voltage	V_{CB}	30 V
Collector to Emitter Voltage	V_{CE}	30 V
Emitter to Base Voltage	V_{EB}	6.0 V
Collector Current (DC)	$I_{C(DC)}$	5.0 A
Collector Current (Pulse)*	$I_{C(PULSE)}$	10 A
Base Current (DC)	$I_{B(DC)}$	2.0 A
* PW $\leq 10\text{ms}$, Duty Cycle $\leq 10\%$		
Maximum Power Dissipation		
Total Power Dissipation ($T_C = 25^\circ\text{C}$)	P_T	10 W
Total Power Dissipation ($T_A = 25^\circ\text{C}$)	P_T	1.0 W
Maximum Temperature		
Junction Temperature	T_J	150 $^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 150 $^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Collector Cutoff Current	I_{CBO}	$V_{CE} = 30 \text{ V, } I_B = 0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6.0 \text{ V, } I_C = 0$			100	nA
DC Current Gain	h_{FE}	$V_{CE} = 2.0 \text{ V, } I_c = 1.0 \text{ A}$	150		600	—
DC Current Gain	h_{FE}	$V_{CE} = 2.0 \text{ V, } I_c = 4.0 \text{ A}$	50		—	—
Collector Saturation Voltage	$V_{CE(sat)}$	$I_c = 1.0 \text{ A, } I_b = 50 \text{ mA}$		0.07	0.15	V
Collector Saturation Voltage	$V_{CE(sat)}$	$I_c = 2.0 \text{ A, } I_b = 0.1 \text{ A}$		0.12	0.25	V
Collector Saturation Voltage	$V_{CE(sat)}$	$I_c = 4.0 \text{ A, } I_b = 0.2 \text{ A}$		0.25	0.50	V
Base Saturation Voltage	$V_{BE(sat)}$	$I_c = 2.0 \text{ A, } I_b = 0.1 \text{ A}$		0.85	1.50	V
Gain Bandwidth Product	f_T	$V_{CE} = 10 \text{ V, } I_c = 50 \text{ mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CE} = 10 \text{ V, } I_c = 0, f = 1 \text{ MHz}$		77		pF

The information in this document is subject to change without notice.