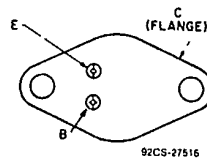


RCA1B04, RCA1B05

File Number 908

Silicon Transistors for Audio-Amplifier Applications

TERMINAL DESIGNATIONS



JEDEC TO-204AA

The RCA1B04 and RCA1B05 are silicon n-p-n transistors in a JEDEC TO-204AA package. They are especially suitable for applications in audio-amplifier circuits, in which they may be used as either driver or output unit.

These devices, together with a variety of other transistors that serve as input devices, V_{BE} amplifiers for biasing, current sources, load-line limiters (for overload protection), and predrivers, may be used to develop several hundred watts of audio output power in quasi-complementary-symmetry audio-amplifier configurations that employ parallel output transistors.

MAXIMUM RATINGS, Absolute-Maximum Values:

	RCA1B04	RCA1B05	
V_{CHO}	225	275	V
V_{CEO}	200	250	V
$V_{CER} R_{BE} = 100 \Omega$	225	275	V
V_{EBO}	5		V
I_C	7		A
I_B	2		A
P_T		150	W
At $T_C \leq 25^\circ C$		See Fig. 1	$^\circ C$
At $T_C > 25^\circ C$		-65 to 150	$^\circ C$
T_{stg}, T_J			
T_L At distance $\geq 1/32$ in. (0.8 mm) from seating plane for 10 s max.		230	$^\circ C$

RCA1B04, RCA1B05

ELECTRICAL CHARACTERISTICS, At Case Temperature (T_C) = 25°C

CHARACTERISTIC	TEST CONDITIONS	LIMITS						UNITS
		RCA1B04A		RCA1B05*		RCA1B09**		
		Min.	Max.	Min.	Max.	Min.	Max.	
I_{CER}	$V_{CE} = 120 V, R_{BE} = 100 \Omega$ $V_{CE} = 200 V, R_{BE} = 100 \Omega$	-	1	-	1	-	1	mA
I_{EBO}	$V_{EB} = 5 V, I_C = 0$	-	1	-	1	-	1	mA
V_{CEO}	$I_C = 0.2 A, I_B = 0$	200	-	250	-	250	-	V
V_{CER}	$I_C = 0.2 A, R_{BE} = 100 \Omega$	225	-	275	-	275	-	V
f_T	$I_C = 0.2 A, V_{CE} = 10 V$ $I_C = 1 A, V_{CE} = 15 V$	5	-	5	-	5	-	MHz
h_{FE}	$I_C = 2 A, V_{CE} = 5 V$	15	75	15	75	40	-	
$V_{CE(sat)}$	$I_C = 2 A, I_B = 0.255 A$ $I_C = 2 A, I_B = 0.2 A$	-	2	-	2	-	1	V
V_{BE}	$I_C = 2 A, V_{CE} = 5 V$	0.75	1.75	0.75	1.75	-	1	V
$I_{S/b}$	$V_{CE} = 120 V, t = 1 s$ $V_{CE} = 140 V, t = 1 s$ $V_{CE} = 80 V, t = 1 s$	1.25	-	-	-	-	-	A

- ▲ For characteristics curves and test conditions, refer to published data for prototype 2N5239 (File 321).
- * For characteristics curves and test conditions, refer to published data for prototype 2N5240 (File 321).
- ** For characteristics curves and test conditions, refer to published data for prototype 2N6510 (File 84B).

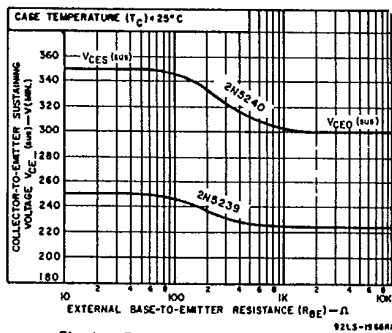


Fig. 1 — Derating curves for all types.

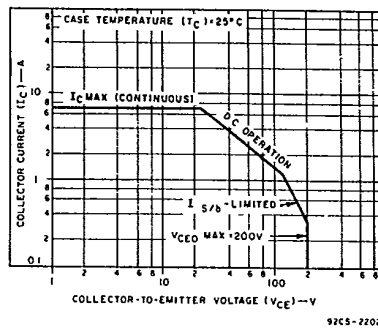


Fig. 2 — Maximum operating areas for RCA1B04.

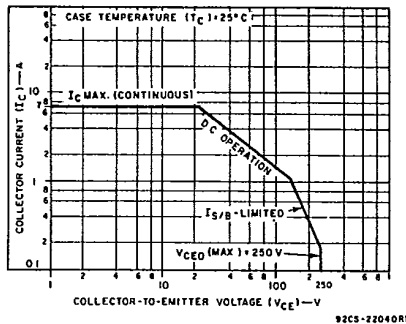


Fig. 3 — Maximum operating areas for RCA1B05.