

3875081 G E SOLID STATE

01E 17474 D T-33-13

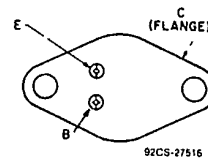
General-Purpose Power Transistors

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	
$V_{CE0}$ .....	225	275	V
$V_{CE0}$ .....	200	250	V
$V_{CE0} R_{BE} = 100 \Omega$ .....	225	275	V
$V_{EBO}$ .....	5	7	V
$I_C$ .....	7	2	V
$I_B$ .....	2	2	A
$P_T$ .....	150	150	W
At $T_C \leq 25^\circ C$ .....	See Fig. 1	See Fig. 1	$^\circ C$
At $T_C > 25^\circ C$ .....	-65 to 150	-65 to 150	$^\circ C$
$T_{sig}, T_J$ .....	230	230	$^\circ C$
$T_L$ At distance $\geq 1/32$ in. (0.8 mm) from seating plane for 10 s max. ....	230	230	$^\circ C$

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General-Purpose Power Transistors

## RCA1B04, RCA1B05

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

CHARAC- TERISTIC	TEST CONDITIONS	LIMITS						UNITS
		RCA1B04▲		RCA1B05*		RCA1B09**		
		Min.	Max.	Min.	Max.	Min.	Max.	
I <sub>CER</sub>	V <sub>CE</sub> = 120 V, R <sub>BE</sub> = 100 Ω	—	1	—	—	—	—	mA
	V <sub>CE</sub> = 200 V, R <sub>BE</sub> = 100 Ω	—	—	—	1	—	1	
I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0	—	1	—	1	—	1	mA
V <sub>CEO</sub>	I <sub>C</sub> = 0.2 A, I <sub>B</sub> = 0	200	—	250	—	250	—	V
V <sub>CER</sub>	I <sub>C</sub> = 0.2 A, R <sub>BE</sub> = 100 Ω	225	—	275	—	275	—	V
f <sub>T</sub>	I <sub>C</sub> = 0.2 A, V <sub>CE</sub> = 10 V	5	—	5	—	—	—	MHz
	I <sub>C</sub> = 1 A, V <sub>CE</sub> = 15 V	—	—	—	—	5	—	
h <sub>FE</sub>	I <sub>C</sub> = 2 A, V <sub>CE</sub> = 5 V	15	75	15	75	40	—	
V <sub>CE(sat)</sub>	I <sub>C</sub> = 2 A, I <sub>B</sub> = 0.255 A	—	2	—	2	—	—	V
	I <sub>C</sub> = 2 A, I <sub>B</sub> = 0.2 A	—	—	—	—	—	1	
V <sub>BE</sub>	I <sub>C</sub> = 2 A, V <sub>CE</sub> = 5 V	0.75	1.75	0.75	1.75	—	1	V
I <sub>S/b</sub>	V <sub>CE</sub> = 120 V, t = 1 s	1.25	—	—	—	—	—	A
	V <sub>CE</sub> = 140 V, t = 1 s	—	—	1.07	—	—	—	
	V <sub>CE</sub> = 80 V, t = 1 s	—	—	—	—	1.875	—	

▲ 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 848).

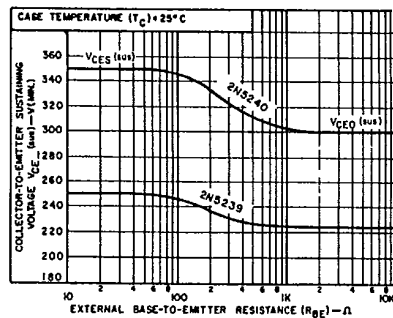


Fig. 1 — Derating curves for all types.

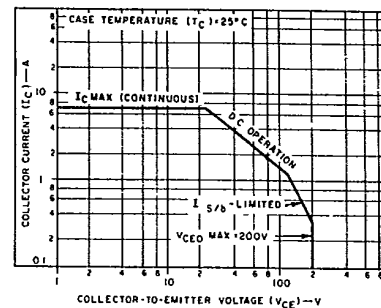


Fig. 2 — Maximum operating areas for RCA1B04.

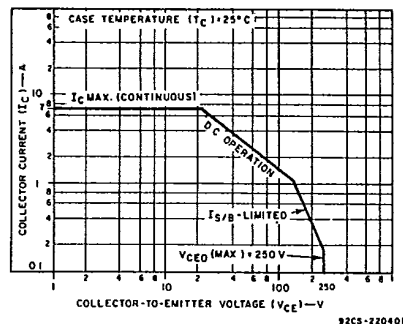


Fig. 3 — Maximum operating areas for RCA1B05.