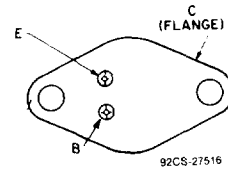


# Silicon Transistors for Quasi-Complementary-Symmetry Audio Amplifiers

**TERMINAL DESIGNATIONS**



**JEDEC TO-204AA**

The RCA-BD550 and BD550B are silicon n-p-n transistors especially suitable for applications in audio-amplifier circuits, in which they may be used as either driver or output unit.

The 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 pre-drivers, may be used to develop several hundred watts of audio output power in quasi-complementary-symmetry audio amplifier configurations that employ parallel output transistors.

The BD-550-series is supplied in the JEDEC TO-204AA hermetic steel case.

**MAXIMUM RATINGS, Absolute-Maximum Values:**

	<b>BD550</b>	<b>BD550B</b>	
$V_{CBO}$ .....	130	275	V
$V_{CEO}$ .....	110	250	V
$V_{CER}(R_{BE} = 100 \Omega)$ .....	130	275	V
$V_{EBO}$ .....	_____	5 _____	V
$I_C$ .....	_____	7 _____	A
$I_B$ .....	_____	2 _____	A
$P_T$			
At $T_C \leq 25^\circ C$ .....	_____	150 _____	W
At $T_C > 25^\circ C$ .....	_____	See Fig. 1 _____	W/°C
$T_{stg}, T_J$ .....	_____	-65 to 200 _____	°C
$T_L$			
At distances $\geq 1/32$ in. (0.8 mm) from seating plane for 10 s max. ....	_____	230 _____	°C

# BD550, BD550B

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

CHARACTERISTIC	TEST CONDITIONS	LIMITS				UNITS
		BD550		BD550B•		
		Min.	Max.	Min.	Max.	
$I_{CER}$ $R_{BE} = 100 \Omega$	$V_{CE} = 110 \text{ V}$ $V_{CE} = 250 \text{ V}$	—	1	—	—	mA
$I_{CEO}$	$V_{CE} = 95 \text{ V}$ $V_{CE} = 200 \text{ V}$	—	5	—	5	mA
$I_{EBO}$	$V_{EB} = 5 \text{ V}$	—	1	—	1	mA
$V_{CEO}$	$I_C = 0.2 \text{ A}$	110	—	250	—	V
$V_{CER}$	$I_C = 0.2 \text{ A}; R_{BE} = 100 \Omega$	130	—	275	—	V
$f_T$	$I_C = 0.2 \text{ A}; V_{CE} = 10 \text{ V}$	5 typ.		5 typ.		MHz
$h_{FE}$	$I_C = 4 \text{ A}; V_{CE} = 4 \text{ V}$ $I_C = 2 \text{ A}; V_{CE} = 4 \text{ V}$	15	75	—	—	
$V_{CE(sat)}$	$I_C = 4 \text{ A}; I_B = 0.5 \text{ A}$ $I_C = 2 \text{ A}; I_B = 0.25 \text{ A}$	—	2	—	—	V
$V_{BE}$	$I_C = 4 \text{ A}; V_{CE} = 4 \text{ V}$ $I_C = 2 \text{ A}; V_{CE} = 4 \text{ V}$	0.75	1.75	—	—	V
$I_{S/b}$	$V_{CE} = 80 \text{ V}; t = 1 \text{ S}$ $V_{CE} = 140 \text{ V}; t = 1 \text{ S}$	1.87	—	—	—	A

▲For characteristics curves and test conditions, refer to published data for prototype RCA8638D (File 1060).

•For characteristics curves and test conditions, refer to published data for prototype 2N5240 (File 321).

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POWER TRANSISTORS

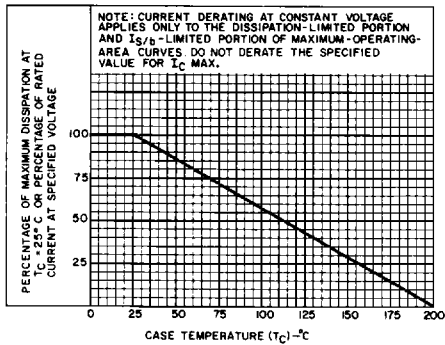
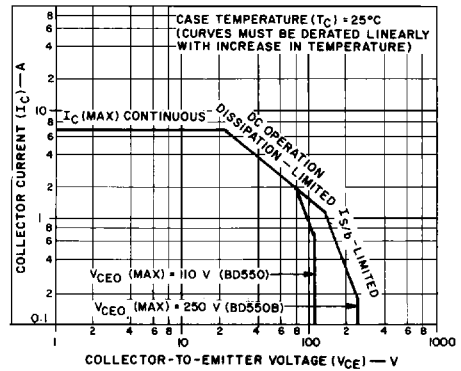


Fig. 1 — Derating curve for all types.



92CS-30886R1

Fig. 2 — Maximum operating areas for all types.