

3875081 G E SOLID STATE

01E 17411 D 7-33-19

General-Purpose Power Transistors

File Number 675

2N5954, 2N5955, 2N5956

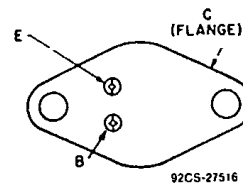
Silicon P-N-P Medium-Power Transistors

General-Purpose Types for Switching Applications

Features:

- Low saturation voltages
- Maximum-safe-area-of-operation curves
- High gain at high current

TERMINAL DESIGNATIONS



JEDEC TO-213AA

RCA-2N5954, 2N5955, and 2N5956* are multiple-epitaxial p-n-p transistors. All are supplied in the JEDEC TO-213AA package.

All these transistors are intended for a wide variety of medium-power switching and amplifier applications, such as series regulators and output stages of high-fidelity amplifiers.

*Formerly RCA Dev. Nos. TA7264, TA7265, and TA7266, respectively.

MAXIMUM RATINGS, Absolute-Maximum Values:

	2N5954	2N5955	2N5956	
* V_{CE0}	-90	-70	-50	V
* $V_{CEX(SUS)}$ $V_{BE} = 1.5$ V, $R_{BE} = 100$ Ω	-90	-70	-50	V
$V_{CEX(SUS)}$ $R_{BE} = 100$ Ω	-85	-65	-45	V
$V_{CE0(SUS)}$	-80	-60	-40	V
* V_{EBO}	-5	-5	-5	V
* I_C	-6	-6	-6	A
* I_B	-2	-2	-2	A
* P_T At T_C up to 25°C	40	40	40	W
At T_C above 25°C	See Figs. 1 and 2			
* T_J , T_{stg}	-65 to +200			°C
* T_L At distances $\geq 1/32$ in. (0.8 mm) from seating plane for 10 s max.	235			°C

* JEDEC types in accordance with JEDEC registration data format JS-6-RDF-2.

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2N5954, 2N5955, 2N5956

ELECTRICAL CHARACTERISTICS, At Case Temperature (T_c) = 25°C Unless Otherwise Specified

CHARACTERISTIC	TEST CONDITIONS				LIMITS						UNITS
	VOLTAGE V dc		CURRENT A dc		2N5956		2N5955		2N5954		
	V _{CE}	V _{BE}	I _C	I _B	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	
I _{CEB} R _{BE} = 100 Ω	-35 -55 -75	— — —	— — —	— — —	— — —	-100 — —	— — —	— -100 —	— — —	— — -100	μA
I _{CEx} R _{BE} = 100 Ω	-45 -65 -85	1.5 1.5 1.5	— — —	— — —	— — —	-100 — —	— — —	— -100 —	— — —	— — -100	μA
R _{BE} = 100 Ω, T _C = 150° C	-45 -65 -85	1.5 1.5 1.5	— — —	— — —	— — —	-2 — —	— — —	— -2 —	— — —	— — -2	mA
I _{CEO}	-25 -45 -65	— — —	— — —	— — —	— — —	-1 — —	— — —	— -1 —	— — —	— — -1	mA
I _{EBO}	—	5	—	—	—	-0.1	—	-0.1	—	-0.1	mA
h _{FE}	-4 -4 -4 -4	— — — —	-3 ^a -2.5 ^a -2 ^a -6 ^a	— — — —	20 — — 5	100 — — —	— 20 — 5	— 100 — —	— — 20 5	— — 100 —	β
V _{CEO(SUS)}	—	—	-0.1 ^a	—	-40 ^b	—	-60 ^b	—	-80 ^b	—	V
V _{CER(SUS)} R _{BE} = 100 Ω	—	—	-0.1 ^a	—	-45 ^b	—	-65 ^b	—	-85 ^b	—	
V _{CEx(SUS)} R _{BE} = 100 Ω	—	1.5	-0.1 ^a	—	-50 ^b	—	-70 ^b	—	-90 ^b	—	
V _{BE}	-4 -4 -4	— — —	-3 ^a -2.5 ^a -2 ^a	— — —	— — —	-2 — —	— — —	— -2 —	— — —	— — -2	V
V _{CE(sat)}	— — —	— — —	-3 ^a -2.5 ^a -2 ^a	-0.3 -0.25 -0.2	— — —	-1 — —	— — —	— -1 —	— — —	— — -1	V
h _{ie} f = 1 MHz	-4	—	-1	—	5	—	5	—	5	—	
h _{ie} f = 1 kHz	-4	—	-0.5	—	25	—	25	—	25	—	
R _{θJC}	—	—	—	—	—	4.3	—	4.3	—	4.3	°C/W

* In accordance with JEDEC registration data format JS-6-RDF-2.

^a Pulsed, pulse duration = 300 μs , duty factor = 1.8%.^b CAUTION: Sustaining voltage $V_{CEO(sus)}$, $V_{CER(sus)}$, and $V_{CEX(sus)}$ MUST NOT be measured on a curve tracer.

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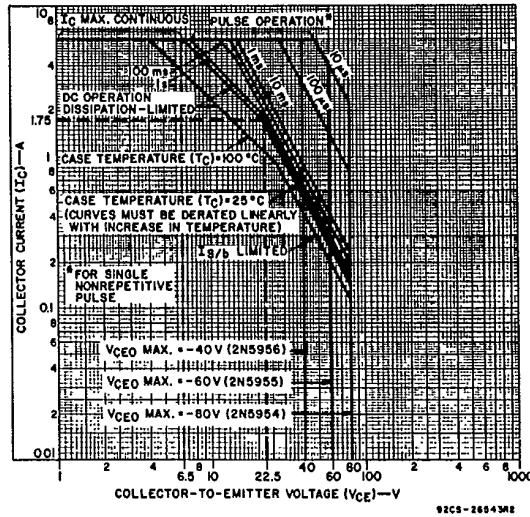


Fig. 1 - Maximum operating areas for all types.

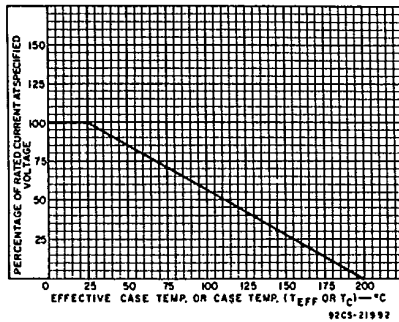


Fig. 2 - Current derating chart for all types.

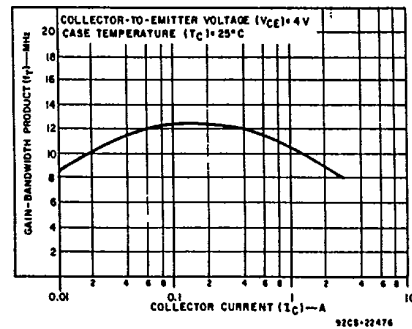


Fig. 3 - Typical gain-bandwidth product for all types.

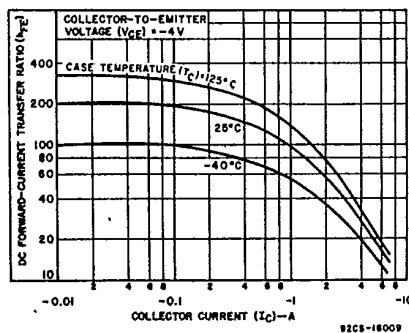


Fig. 4 - Typical dc beta characteristics for 2N5954-2N5956.

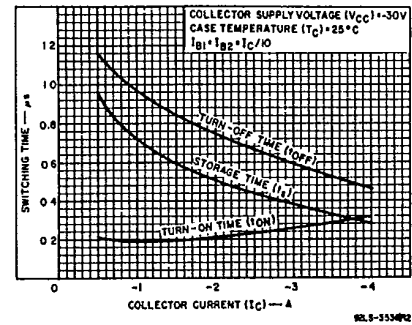


Fig. 5 - Typical saturated switching characteristics for 2N5954-2N5956.

