File Number **16**

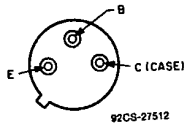
2N697

Silicon N-P-N Planar Transistor

For High-Speed Switching Service in Electronic Data-Processing Systems

Features:
- *Characteristics stabilized by prolonged baking at 300° C*
- *Typical pulse beta = 75*
- *Low saturation voltages*

TERMINAL DESIGNATIONS



JEDEC TO-205AD

The RCA-2N697 is a silicon n-p-n transistor designed for use in high-speed-switching applications in military and industrial data processing equipment.

This transistor is especially designed and processed to assure stability of characteristics and reliable performance under conditions of severe thermal and mechanical stress, and other environmental hazards.

The 2N697 is supplied in a TO-205AD package.

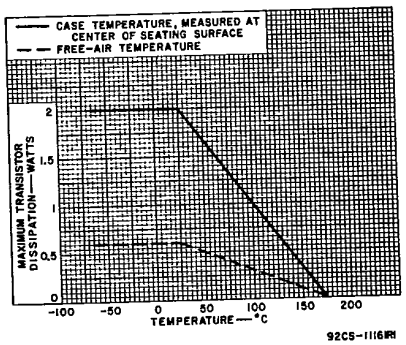


Fig. 1 - Current derating chart.

MAXIMUM RATINGS, *Absolute-Maximum Values*

* V_{CBO}	60	V
* V_{CER} (R_{BE} = 10 Ω)	40	V
* V_{EBO}	5	V
I_C	0.5	A
* P_T		
At $T_C \leq 25°C$	2	W
At $T_C > 25°C$	See Fig. 1	
At $T_A \leq 25°C$	0.6	W
At $T_A > 25°C$	See Fig. 1	
* T_{stg}, T_J	-65 to +175	°C
* T_L		
At distance ≥ 1/16 in. (1.58 mm) from seating plane for 10 s max.	300	°C

* In accordance with JEDEC registration data.

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2N697

ELECTRICAL CHARACTERISTICS, *at Ambient Temperature (T_A) = 25°C, unless otherwise specified*

	CHARACTERISTIC	TEST CONDITIONS					LIMITS			UNITS
		VOLTAGE V dc		CURRENT mA dc						
		V_{CB}	V_{CE}	I_C	I_E	I_B	Min.	Typ.	Max.	
*	I_{CBO}	30			0		–	0.01	1	μA
	T_A = 150°C	30			0		–	1	100	
*	h_{FE}		10	150[b]			40	75	120	
	$V_{(BR)CBO}$			0.1	0		60	75	–	V
	$V_{(BR)EBO}$			0	0.1		5	7.5	–	V
*	$V_{CER(sus)}$ R_{BE} = 10 Ω			100[a]			40	60	–	V
*	$V_{CE(sat)}$			150[b]		15	–	0.8	1.5	V
*	$V_{BE(sat)}$			150[b]		15	–	1	1.3	V
*	h_{fe} f = 20 MHz		10	50			2.5	10	–	
*	C_{ob}	10			0		–	20	35	pF
	f_T						–	100	–	MHz

a Pulsed to prevent excessive heating of collector junction
b Pulsed: Pulse duration ≤ 300 μs, duty factor ≤ 2%.
* In accordance with JEDEC registration data.