

File Number 1059

2N3791, 2N3792

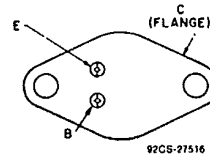
Silicon P-N-P Epitaxial-Base High-Power Transistors

Rugged, Broadly Applicable Devices
For Industrial and Commercial Use

Features:

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

TERMINAL DESIGNATIONS



JEDEC TO-204AA

The RCA-2N3791 and 2N3792 are epitaxial-base silicon p-n-p transistors featuring high gain at high current. They may be used as complements to the n-p-n types 2N3715 and 2N3716, respectively. These devices are intended for medium-speed switching and amplifier applications and feature a dissipation capability of 150 watts at case temperatures up to 25°C.

They differ in voltage ratings and in the currents at which the parameters are controlled. Both are supplied in the steel JEDEC TO-204AA hermetic package.

MAXIMUM RATINGS, Absolute-Maximum Values:

	2N3791	2N3792	
• V_{CE0}	-80	-80	V
• V_{CE0}	-60	-80	V
• V_{EBO}	-7	-7	V
• I_C	-10	-10	A
• I_{CM}	-10	-10	A
• I_B	-4	-4	A
• P_T	150	150	W
At $T_c \leq 25^\circ C$			
At $T_c > 25^\circ C$	derate linearly		W/°C
• T_J, T_{stg}	-65 to 200		°C

* In accordance with JEDEC registration data.

3875081 G E SOLID STATE
General-Purpose Power Transistors

01E 17374 D

T-33-23

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ELECTRICAL CHARACTERISTICS, at Case Temperature
(T_C) = 25°C Unless Otherwise Specified

CHARACTERISTICS	TEST CONDITIONS				LIMITS				UNITS
	VOLTAGE V _{dc}		CURRENT A _{dc}		2N3791		2N3792		
	V _{CE}	V _{BE}	I _C	I _B	Min.	Max.	Min.	Max.	
* I _{CEX}	-60 -80	1.5 1.5	- -	- -	- -	-1 -	- -	- -1	mA
T _C = 150°C	-60 -80	1.5 1.5	- -	- -	- -	-5 -	- -	- -5	
* I _{CEO}	-30 -40		- -	- -	- -	-10 -10	- -	-10 -10	mA
* I _{EBO}		7	- -	- -	- -	-5 -	- -	-5 -	
* V _{CEO(sus)} ^b			-0.2	0	-60	-	-80	-	V
* h _{FE} ^a	-2 -2 -4		-1 -3 -10	- - -	50 30 4	150 - -	50 30 4	150 - -	
* V _{BE}	-2 -4		-5 -10	- -	- -	-1.8 -4.0	- -	-1.8 -4.0	V
* V _{BE(sat)} ^a			-5	-0.5	-	-1.5	-	-1.5	
* V _{CE(sat)} ^a			-5 -10	-0.5 -2.0	- -	-1 -4	- -	-1 -4	V
* f _{hfe}	-10		-0.5	-	30	-	30	-	
* h _{fe} f = 1 KHz	-10		-0.5	-	25	250	25	250	
* h _{fe} f = 1 MHz	-10		-0.5	-	4	-	4	-	
I _{S/b} tp = 1s	40				2.7	-	2.95	-	A
* C _{ob} V _{CB} = 10 V f = 1 MHz			0		-	500	-	500	pF
* R _{θJC}					-	1.17	-	1.17	°C/W

* In accordance with JEDEC registration data.

^a Pulsed; pulse duration = 200 μs, duty factor = 1.5%.

^b CAUTION: Sustaining voltage, V_{CEO(sus)}, *MUST NOT* be measured on a curve tracer.

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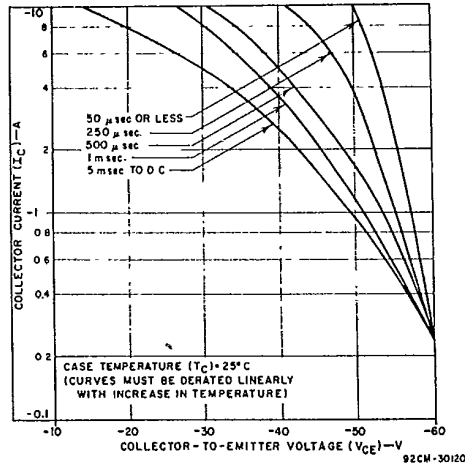


Fig. 1 - Maximum operating areas for 2N3791.

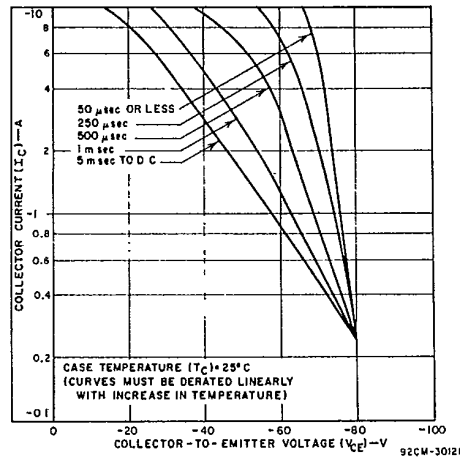


Fig. 2 - Maximum operating areas for 2N3792.

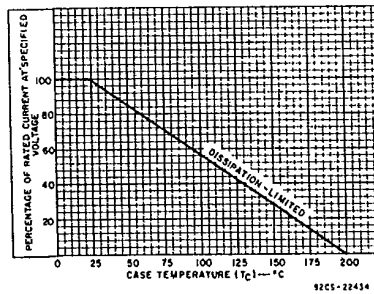


Fig. 3 - Derating curve.

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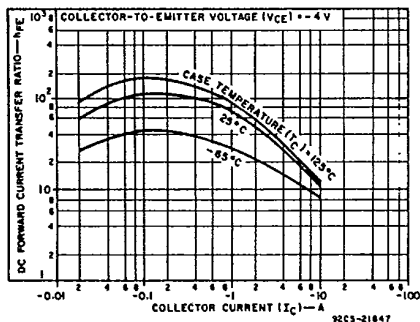


Fig. 4 - Typical dc beta characteristics for both types.

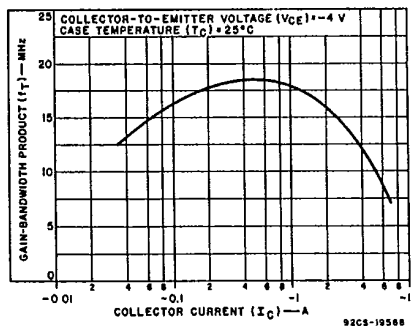


Fig. 5 - Typical gain-bandwidth product for both types.

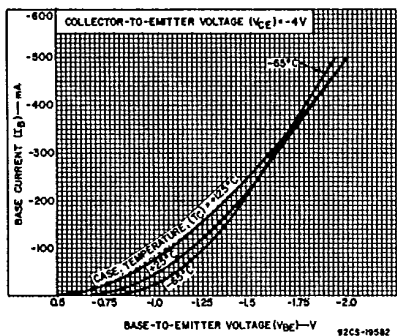


Fig. 6 - Typical input characteristics for both types.

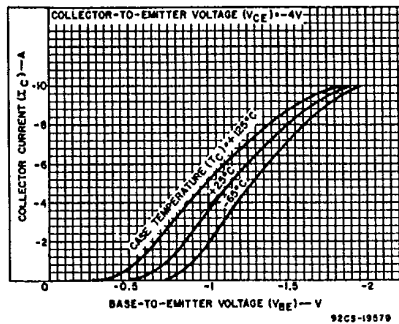


Fig. 7 - Typical transfer characteristics for both types.