

File Number 1240 BD895, BD895A, BD897, BD897A, BD899, BD899A, BD901

8-Ampere N-P-N Darlington Power Transistors

45-60-80-100-Volts, 70 Watts

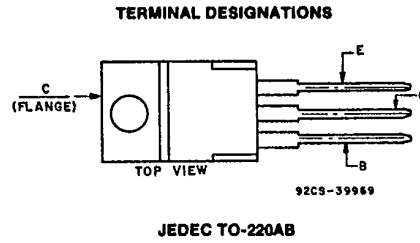
Gain of 750 at 4 A
(BD895A, BD897A, BD899A)

Gain of 750 at 3 A
(BD895, BD897, BD899, BD901)

Features:

- Operated from IC without predriver
- Low Leakage at high temperature
- Power Switching
- Hammer drivers
- Series and shunt regulators
- Audio amplifiers

Applications:



The RCA-BD895, BD895A, BD897, BD897A, BD899, BD899A, and BD901 are monolithic silicon n-p-n Darlington transistors designed for low- and medium-frequency power applications. The high gain of these devices makes it possible for them to be driven directly from integrated circuits.

These devices are supplied in the JEDEC TO-220AB (VERSAWATT) plastic package.

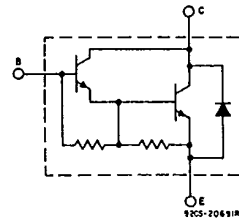


Fig. 1—Schematic diagram for all types.

MAXIMUM RATINGS, Absolute-Maximum Values:

	BD895 BD895A	BD897 BD897A	BD899 BD899A	BD901 —	
V _{CBO}	45	60	80	100	V
V _{CEO(sus)}	45	60	80	100	V
V _{EBO}	5			—	V
I _C	8			—	A
I _B	0.1			—	A
P _T					
T _C < 25°C.....	70			—	W
T _C > 25°C.....	Derate linearly 0.56			—	W/°C
T _{stg} , T _J	-65 to 150			—	°C
T _L					
At distances > 1/8 in. (3.17 mm) from case for 10 s max.....	235			—	°C

BD895, BD895A, BD897, BD897A, BD899, BD899A, BD901

ELECTRICAL CHARACTERISTICS, At Case Temperature ($T_C = 25^\circ\text{C}$ Unless Otherwise Specified)

CHARACTERISTIC	TEST CONDITIONS					LIMITS				UNITS
	VOLTAGE V dc			CURRENT A dc		BD895 BD895A		BD897 BD897A		
	V_{CB}	V_{CE}	V_{BE}	I_C	I_B	Min.	Max.	Min.	Max.	
I_{CEO}		20 30			0 0	— —	500 —	— —	— 500	μA
I_{CBO}	45 60					— —	0.2 —	— —	— 0.2	mA
$T_C = 100^\circ\text{C}$	45 60					— —	2 —	— —	— 2	
I_{EBO}			-5	0		—	2	—	2	
$V_{CEO(sus)}$				0.1 ^a	0	45	—	60	—	V
h_{FE} BD895, BD897		3		3 ^a		750	—	750	—	
BD895A, BD897A		3		4 ^a		750	—	750	—	
V_{BE} BD895, BD897		3		3 ^a		—	2.5	—	2.5	V
BD895A, BD897A		3		4 ^a		—	2.5	—	2.5	
$V_{CE(sat)}$ BD895				3 ^a	0.012	—	2.5	—	2.5	V
BD897				3 ^a	0.012	—	2.5	—	2.5	
BD895A, BD897A				4 ^a	0.016	—	2.8	—	2.8	
h_{fe} $f = 1\text{ MHz}$		3		3		1	—	1	—	
$R_{\theta JC}$						—	1.78	—	1.78	$^\circ\text{C/W}$

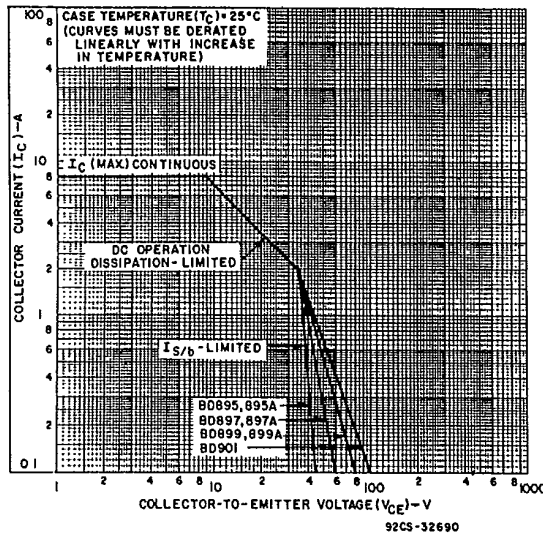


Fig. 2—Maximum operating areas for all types.

BD895, BD895A, BD897, BD897A, BD899, BD899A, BD901

ELECTRICAL CHARACTERISTICS, At Case Temperature ($T_C = 25^\circ\text{C}$ Unless Otherwise Specified)

CHARACTERISTIC	TEST CONDITIONS					LIMITS				UNITS
	VOLTAGE V dc			CURRENT A dc		BD899 BD899A		BD901		
	V_{CB}	V_{CE}	V_{BE}	I_C	I_B	Min.	Max.	Min.	Max.	
I_{CEO}		40 50			0 0	— —	500 —	— —	— 500	μA
I_{CBO}	80 100					— —	0.2 —	— —	— 0.2	mA
$T_C = 100^\circ\text{C}$	80 100					— —	2 —	— —	— 2	
I_{EBO}			-5	0		—	2	—	2	
$V_{CEO(sus)}$				0.1 ^a	0	80	—	100	—	V
h_{FE} BD899, BD901		3		3 ^a		750	—	750	—	
BD899A only		3		4 ^a		750	—	—	—	
V_{BE} BD899, BD901		3		3 ^a		—	2.5	—	2.5	V
BD899A only		3		4 ^a		—	2.5	—	—	
$V_{CE(sat)}$ BD899				3 ^a	0.012	—	2.5	—	2.5	
BD901				4 ^a	0.016	—	2.8	—	—	
BD899A only				4 ^a	0.016	—	2.8	—	—	
h_{fe} $f = 1\text{ MHz}$		3		3 ^a		1	—	1	—	
$R_{\theta JC}$						—	1.78	—	1.78	$^\circ\text{C/W}$

^a Pulsed; Pulse duration = 300 μs , duty factor = 1.8%.

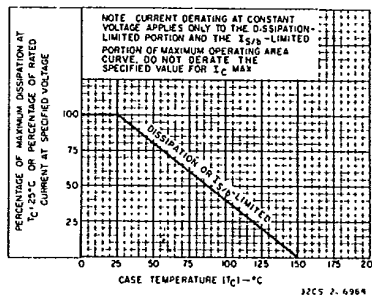


Fig. 3—Derating curve for all types.

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