

3875081 G E SOLID STATE

01E 17554 D T-33-11
Pro Electron Power Transistors

File Number 1242

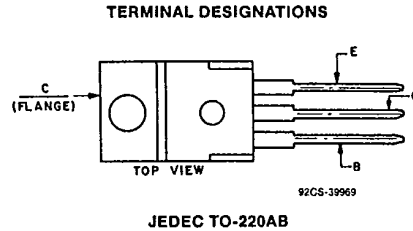
BD795, BD796, BD797, BD798,
BD799, BD800, BD801, BD802

Epitaxial-Base, Silicon N-P-N and P-N-P VERSAWATT Transistors

General-Purpose Medium-Power Types for
Switching and Amplifier Applications

Features:

- Low saturation voltages
- Complementary n-p-n and p-n-p types
- Maximum safe-area-of-operation curves



The RCA-BD795, BD797, BD799, and BD801 n-p-n transistors and their p-n-p complements BD796, BD798, BD800, and BD802, respectively, are epitaxial-base silicon types intended for a wide variety of medium-power switching and amplifier applications, such as series and shunt regulators and driver and output stages of high-fidelity amplifiers.

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

MAXIMUM RATINGS, Absolute-Maximum Values:

	N-P-N	BD795	BD797	BD799	BD801	
	P-N-P	BD796*	BD798*	BD800*	BD802*	
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				3		A
P_T				65		W
$T_C \leq 25^\circ C$				Derate Linearly 0.522		W/°C
$T_C > 25^\circ C$				-55 to 150		°C
T_{stg} T_J						°C
T_L At distances $\geq 1/8$ in. (3.17 mm) from case for 10 s max.				235		°C

*For p-n-p devices, voltage and current values are negative.

**BD795, BD796, BD797, BD798,
BD799, BD800, BD801, BD802**

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

CHARACTERISTIC	TEST CONDITIONS					LIMITS				UNITS
	VOLTAGE V dc			CURRENT A dc		BD795 BD796 ●		BD797 BD798 ●		
	V_{CB}	V_{CE}	V_{BE}	I_C	I_B	Min.	Max.	Min.	Max.	
I_{CBO}	45 60					—	0.1	—	—	mA
I_{EBO}			-5	0		—	1	—	1	
V_{CE0}^b				0.1 ^a	0	45	—	60	—	V
h_{FE}		2'		1 ^a		40	—	40	—	V
		2		3 ^a		25	—	25	—	
$V_{BE(ON)}$		2		3 ^a		—	1.6	—	1.6	V
$V_{CE(sat)}$				3 ^a	0.3	—	1	—	1	
f_T $f = 1$ MHz		10		0.25		3	—	3	—	MHZ
$R_{\theta JC}$						—	1.92	—	1.92	°C/W

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

^b CAUTION: The sustaining voltage $V_{CE0(sus)}$ *MUST NOT* be measured on a curve tracer.

● For p-n-p devices, voltage and current values are negative.

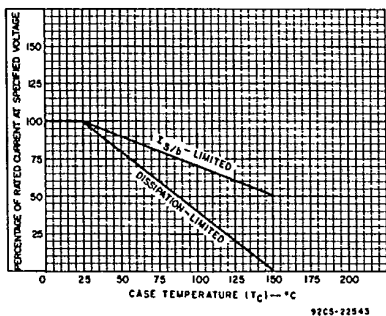


Fig. 1—Current derating curves for all types.

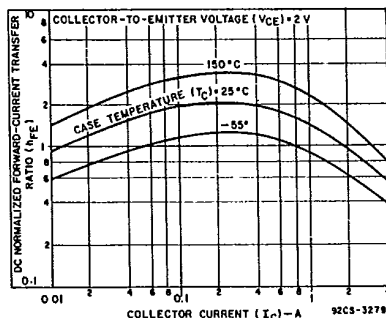


Fig. 2—Normalized dc-beta characteristics for all types.

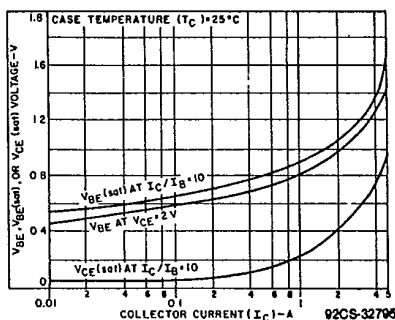


Fig. 3—Typical "on" voltage characteristics for all types.

**BD795, BD796, BD797, BD798,
BD799, BD800, BD801, BD802**

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

T-33-21

CHARACTERISTIC	TEST CONDITIONS					LIMITS				UNITS
	VOLTAGE			CURRENT		BD799 BD800 •		BD801 BD802 •		
	V_{CB}	V_{CE}	V_{BE}	I_C	I_B	Min.	Max.	Min.	Max.	
I_{CBO}	80 100					—	0.1	—	—	mA
I_{EBO}			-5	0		—	1	—	1	
V_{CE0}^b				0.1 ^a	0	80	—	100	—	V
h_{FE}		2		1 ^a		30	—	30	—	
		2		3 ^a		15	—	15	—	
$V_{BE(ON)}$		2		3 ^a		—	1.6	—	1.6	V
$V_{CE(sat)}$				3 ^a	0.3	—	1	—	1	
f_T $f = 1$ MHz		10		0.25		3	—	3	—	MHZ
$R_{\theta JC}$						—	1.92	—	1.92	°C/W

- ^a Pulsed; Pulse duration = 300 μ s, duty factor = 1.8%.
- ^b CAUTION: The sustaining voltage $V_{CE0(sus)}$ **MUST NOT** be measured on a curve tracer.
- For p-n-p devices, voltage and current values are negative.

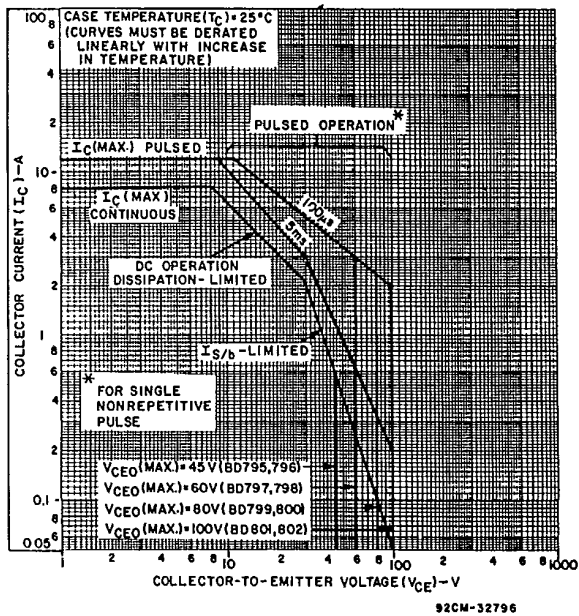


Fig. 4 — Maximum operating areas for all types.