

3875081 G E SOLID STATE

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

File Number 1242

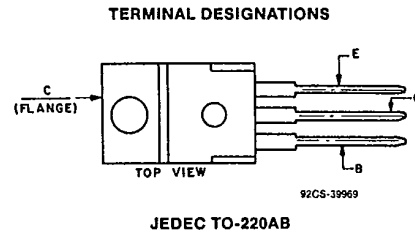
BD795, BD796, BD797, BD798,
BD799, BD800, BD801, BD802

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
$T_C \leq 25^\circ\text{C}$				Derate Linearly 0.522		W/°C
$T_C > 25^\circ\text{C}$				-55 to 150		°C
T_{stg} T_J						°C
T_L				235		°C

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

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T-33-21

**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 ^c 2		1 ^a 3 ^a		40 25	— —	40 25	— —	V
V _{BE(ON)}		2		3 ^a		—	1.6	—	1.6	
V _{CE(sat)}				3 ^a	0.3	—	1	—	1	
f _T f = 1 MHz		10		0.25		3	—	3	—	MHz
R _{θJC}						—	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.

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

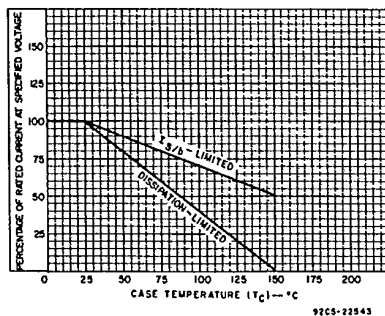


Fig. 1—Current derating curves for all types.

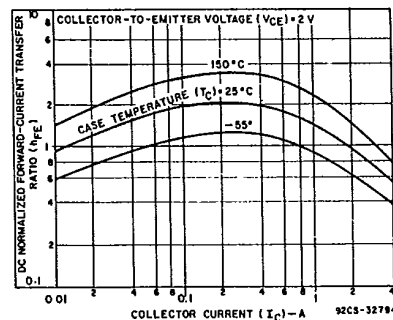


Fig. 2—Normalized dc-beta characteristics for all types.

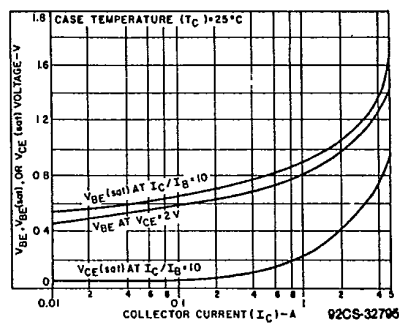


Fig. 3—Typical "on" voltage characteristics for all types.

**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 V dc			CURRENT A dc		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 _{θJC}						—	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.

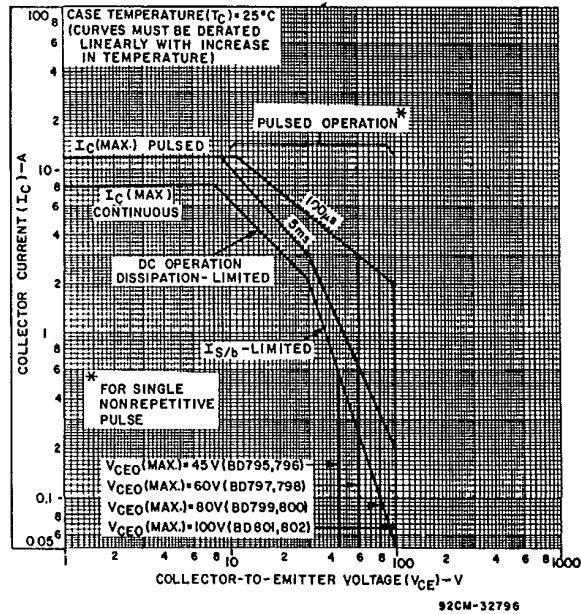


Fig. 4 — Maximum operating areas for all types.