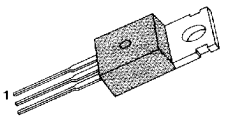
BDW93/A/B/C NPN EPITAXIAL SILICON TRANSISTOR

POWER DARLINGTON TR
HAMMER DRIVERS, AUDIO AMPLIFIERS
APPLICATIONS

- Complement to BDW94, BDW94A, BDW94B and BDW94C respectively

TO-220



1.Base 2.Collector 3.Emitter

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage : BDW93	V_{CBO}	45	V
: BDW93A		60	V
: BDW93B		80	V
: BDW93C		100	V
Collector Emitter Voltage : BDW93	V_{CEO}	45	V
: BDW93A		60	V
: BDW93B		80	V
: BDW93C		100	V
Collector Current (DC)	I_C	12	A
Collector Current (Pulse)	I_C	15	A
Base Current	I_B	0.2	A
Collector Dissipation (T_C=25°C)	P_C	80	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-65 ~ 150	°C

ELECTRICAL CHARACTERISTICS (T_C=25°C)

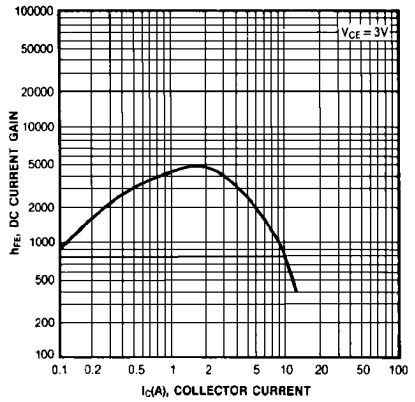
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
*Collector Emitter Sustaining Voltage : BDW93	$V_{CEO}(sus)$	I_C = 100mA, I_B = 0	45			V
: BDW93A			60			V
: BDW93B			80			V
: BDW93C			100			V
Collector Cutoff Current : BDW93	I_{CBO}	V_{CB} = 45V, I_E = 0			100	μA
: BDW93A		V_{CB} = 60V, I_E = 0			100	μA
: BDW93B		V_{CB} = 80V, I_E = 0			100	μA
: BDW93C		V_{CB} = 100V, I_E = 0			100	μA
Collector Cutoff Current : BDW93	I_{CEO}	V_{CE} = 45V, I_B = 0			1	mA
: BDW93A		V_{CE} = 60V, I_B = 0			1	mA
: BDW93B		V_{CE} = 80V, I_B = 0			1	mA
: BDW93C		V_{CE} = 100V, I_B = 0			1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0			2	mA
*DC Current Gain	h_{FE}	V_{CE} = 3V, I_C = 3A	1000			
		V_{CE} = 3V, I_C = 5A	750		20000	
		V_{CE} = 3V, I_C = 10A	100			
*Collector Emitter Saturation Voltage	$V_{CE}(sat)$	I_C = 5A, I_B = 20mA			2	V
		I_C = 10A, I_B = 100mA			3	V
*Base Emitter Saturation Voltage	$V_{BE}(sat)$	I_C = 5A, I_B = 20mA			2.5	V
		I_C = 10A, I_B = 100mA			4	V
* Parallel Diode Forward Voltage	V_f	I_F = 5A		1.3	2	V
		I_F = 10A		1.8	4	V

* Pulse Test: PW=300μs, duty Cycle =1.5% Pulsed

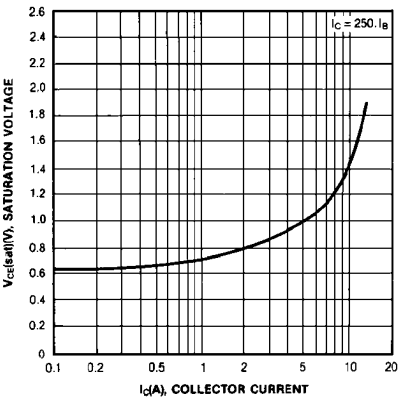
Rev. B

FAIRCHILD SEMICONDUCTOR TM

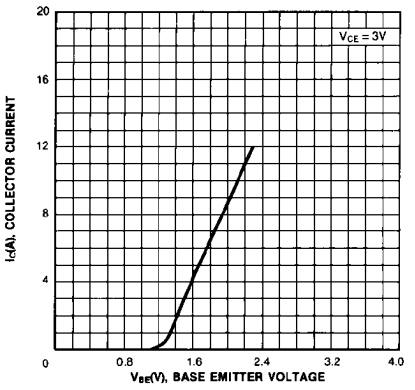
DC CURRENT GAIN



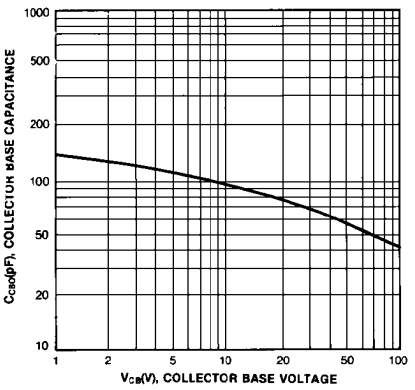
COLLECTOR EMITTER SATURATION VOLTAGE



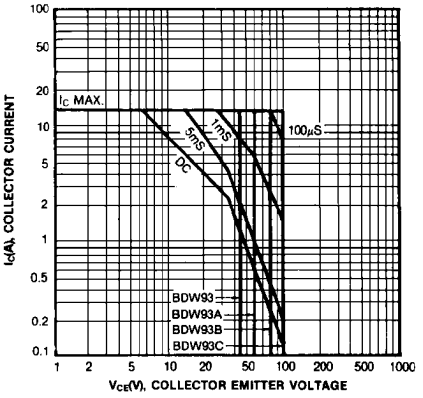
BASE EMITTER VOLTAGE



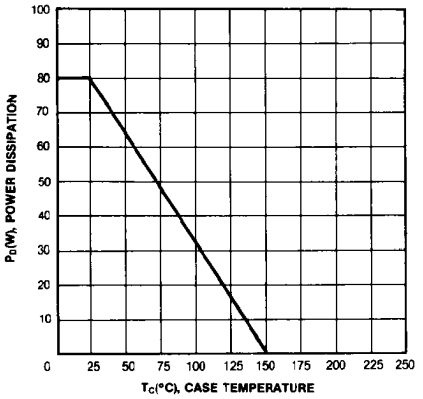
COLLECTOR BASE CAPACITANCE



SAFE OPERATING AREA



POWER DERATING



FAIRCHILD
SEMICONDUCTOR TM