

BD 586 • BD 588

BD 590 • BD 592

PLASTIC MEDIUM POWER
SILICON PNP TRANSISTOR

... designed for use in 5 to 10 Watt audio amplifiers utilizing complementary or quasi complementary circuits.

- DC Current Gain— $h_{FE} = 40$ (Min) @ $I_C = 0.5$ Adc
- BD 586, 588, 590, 592 are complementary with BD 585, 587, 589, 591

MAXIMUM RATINGS

Rating	Symbol	Type	Value	Unit
Collector-Emitter Voltage	V_{CEO}	BD 586 BD 588 BD 590 BD 592	45 60 80 100	Vdc
Collector-Base Voltage	V_{CBO}	BD 586 BD 588 BD 590 BD 592	45 60 80 100	Vdc
Emitter-Base Voltage	V_{EBO}		5	Vdc
Collector Current	I_C		4.0	Adc
Base Current	I_B		1.5	Adc
Total Device Dissipation Derate above 25°C	P_D		40 320	Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}		-55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	3.12	°C/W

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

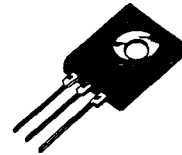
Characteristic	Symbol	Type	Min	Max	Unit
Collector-Emitter Sustaining Voltage* ($I_C = 0.1$ Adc, $I_B = 0$)	BV_{CEO}	BD 586 BD 588 BD 590 BD 592	45 60 80 100	—	Vdc
Collector Cutoff Current ($V_{CB} = 45$ Vdc, $I_E = 0$) ($V_{CB} = 60$ Vdc, $I_E = 0$) ($V_{CB} = 80$ Vdc, $I_E = 0$) ($V_{CB} = 100$ Vdc, $I_E = 0$)	I_{CBO}	BD 586 BD 588 BD 590 BD 592	—	0.1 0.1 0.1 0.1	mAdc
Emitter Cutoff Current ($V_{BE} = 5.0$ Vdc, $I_C = 0$)	I_{EBO}		—	1.0	mAdc
DC current Gain ($I_C = 0.5$ A, $V_{CE} = 2$ V) ($I_C = 2$ A, $V_{CE} = 2$ V)	h_{FE}	BD 586/588 BD 590/592	40 30	—	
Collector-Emitter Saturation Voltage* ($I_C = 2$ Adc, $I_B = 0.2$ Adc)	$V_{CE(sat)}$		—	0.8	Vdc
Base-Emitter On Voltage* ($I_C = 2$ Adc, $V_{CE} = 2.0$ Vdc)	$V_{BE(on)}$		—	1.5	Vdc
Current-Gain-Bandwidth Product ($I_C = 0.25$ Adc, $V_{CE} = 10$ Vdc, $f = 1.0$ MHz)	f_T		3.0	—	MHz

* Pulse Test: Pulse Width ≤ 300 μs , Duty Cycle $\leq 2.0\%$.

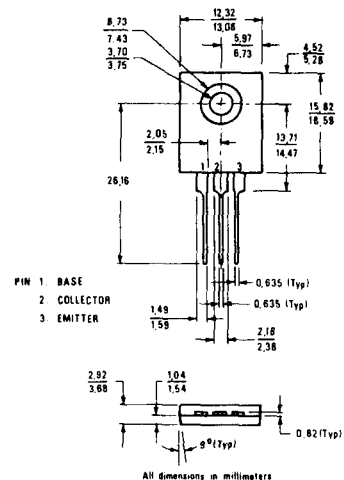
4 AMPERE
POWER TRANSISTOR

PNP SILICON

45, 60, 80, 100 VOLTS
40 WATTS



HARDWARE AVAILABLE:
1. MICA WASHER - 14B 52600 FO13
2. NYLON SHOULDER BUSHING
- SB 51547 FO10



PIN 1 BASE
2 COLLECTOR
3 EMITTER

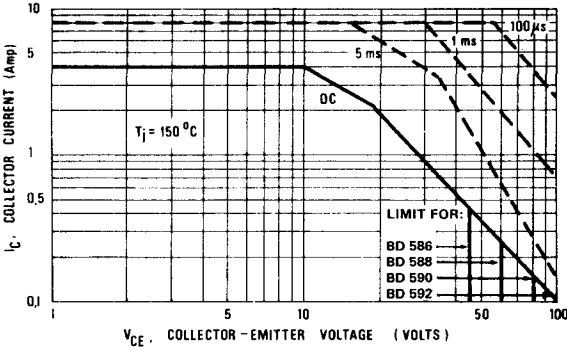
All dimensions in millimeters

If lead bending is required, use suitable clamps or other supports between transistor case and point of bend

Case 199_04

BD 586 · BD 588
BD 590 · BD 592

FIGURE 1 – ACTIVE-REGION SAFE OPERATING AREA



The Safe Operating Area Curves indicate I_C - V_{CE} limits below which the device will not enter secondary breakdown. Collector load lines for specific circuits must fall within the applicable Safe Area to avoid causing a catastrophic failure. To insure operation below the maximum T_J , power-temperature derating must be observed for both steady state and pulse power conditions.

FIGURE 2 – COLLECTOR SATURATION REGION

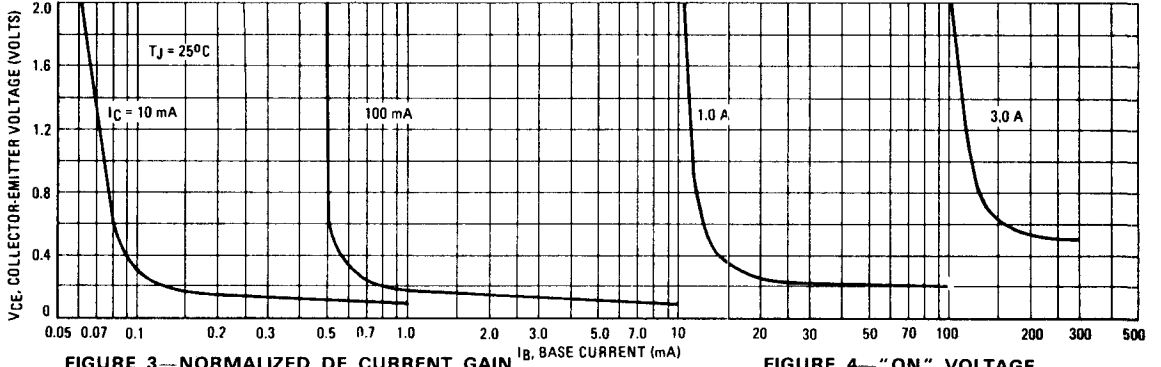


FIGURE 3 – NORMALIZED DC CURRENT GAIN

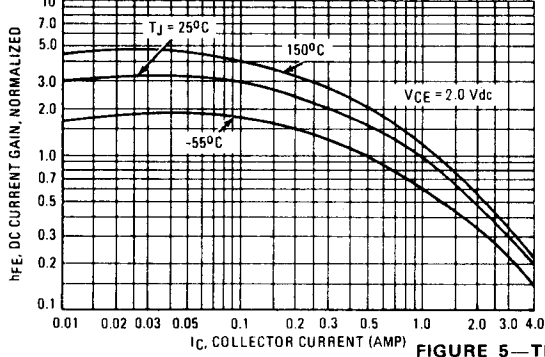


FIGURE 4 – "ON" VOLTAGE

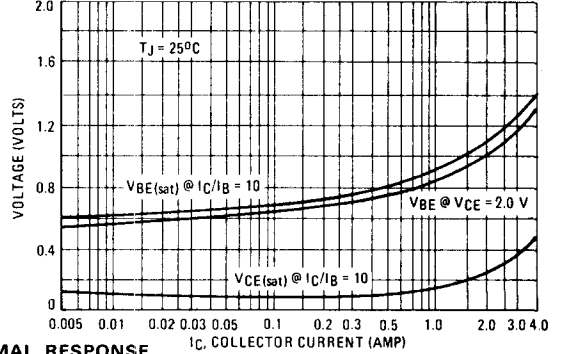


FIGURE 5 – THERMAL RESPONSE

