

BD 595 • BD 597

BD 599 • BD 601

**PLASTIC HIGH POWER
SILICON NPN TRANSISTOR**

... designed for use up to 30 Watt audio amplifiers utilizing complementary or quasi complementary circuits.

- DC Current Gain— $h_{FE} = 40$ (Min) @ $I_C = 1.0$ Adc
- BD 595, 597, 599, 601 are complementary with BD 596, 598, 600, 602

MAXIMUM RATINGS

Rating	Symbol	Type	Value	Unit
Collector-Emitter Voltage	V_{CEO}	BD 595 BD 597 BD 599 BD 601	45 60 80 100	Vdc
Collector-Base Voltage	V_{CBO}	BD 595 BD 597 BD 599 BD 601	45 60 80 100	Vdc
Emitter-Base Voltage	V_{EBO}		5	Vdc
Collector Current	I_C		8	A dc
Base Current	I_B		3	A dc
Total Device Dissipation Derate above 25°C	P_D		65 522	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}	1.92	° C/W

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

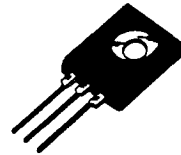
Characteristic	Symbol	Type	Min	Max	Unit
Collector-Emitter Sustaining Voltage* ($I_C = 0.1$ Adc, $I_B = 0$) ($I_C = 0.05$ Adc, $I_B = 0$)	V_{CEO}	BD 595 BD 597 BD 599 BD 601	45 60 80 100	—	Vdc
Collector Cutoff Current ($V_{CB} = 45$ Vdc, $I_E = 0$) ($V_{CB} = 60$ Vdc, $I_E = 0$) ($V_{CB} = 80$ Vdc, $I_E = 0$) ($V_{CB} = 100$ Vdc, $I_E = 0$)	I_{CBO}	BD 595 BD 597 BD 599 BD 601	—	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 ($I_C = 1$ A, $V_{CE} = 2$ V) ($I_C = 3$ A, $V_{CE} = 2$ V)	h_{FE}	BD 595/597 BD 599/601 BD 596/597 BD 599/601	40 30 25 15	—	
Collector-Emitter Saturation Voltage* ($I_C = 3$ Adc, $I_B = 0.3$ Adc)	$V_{CE(sat)}$		—	1.0	Vdc
Base-Emitter On Voltage* ($I_C = 3$ Adc, $V_{CE} = 2.0$ Vdc)	$V_{BE(on)}$		—	1.6	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 μ s. Duty Cycle $\leq 2.0\%$.

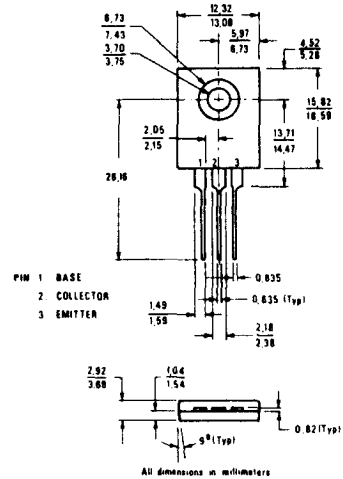
**8 AMPERE
POWER TRANSISTOR**

NPN SILICON

45, 60, 80, 100 VOLTS
65 WATTS



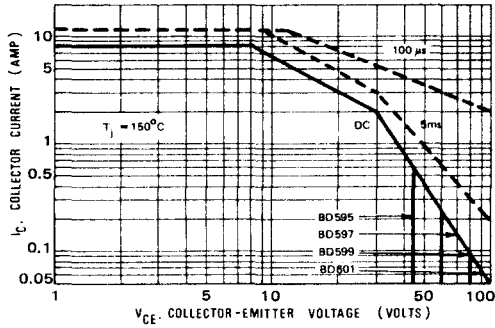
HARDWARE AVAILABLE:
1. MICA WASHER — 14B 52600 FO13
2. NYLON SHOULDER BUSHING
— SB 51547 FO10



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

Case 199_04

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

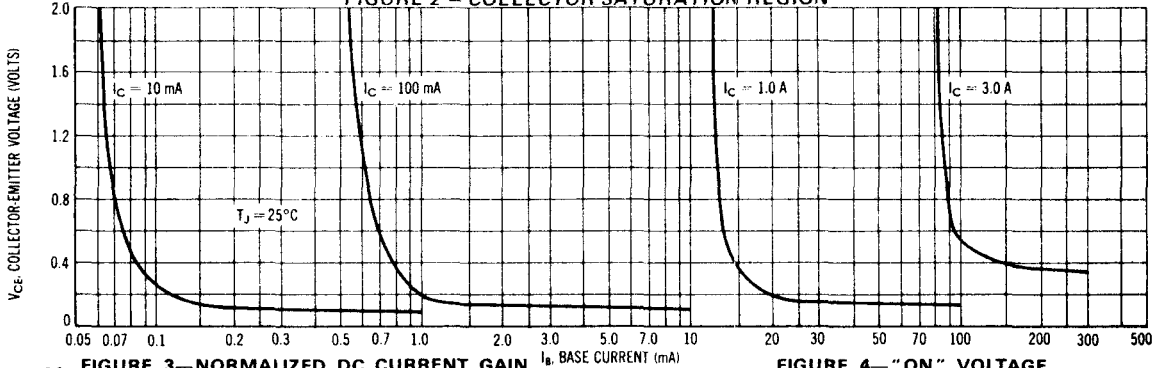


FIGURE 3—NORMALIZED DC CURRENT GAIN

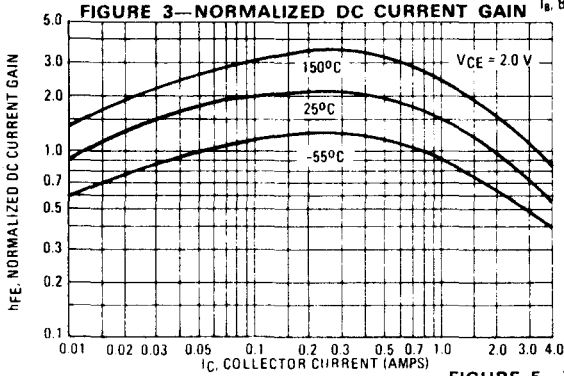


FIGURE 4—"ON" VOLTAGE

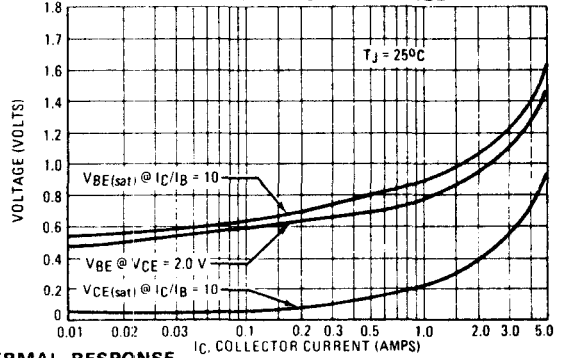


FIGURE 5—THERMAL RESPONSE

