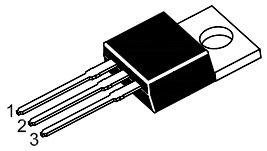
2SB596

PNP Epitaxial Silicon Power Transistor

for power amplifier applications



1.Base 2.Collector 3.Emitter

TO-220 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	80	V
Collector Emitter Voltage	$-V_{CEO}$	80	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	4	A
Base Current	$-I_B$	0.4	A
Power Dissipation (T_c = 25 °C)	P_C	30	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $-V_{CE}$ = 5 V, $-I_C$ = 0.5 A Current Gain Group	R	h_{FE}	40	-	80	-
	O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
at $-V_{CE}$ = 5 V, $-I_C$ = 3 A		h_{FE}	15	-	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 80 V		$-I_{CBO}$	-	-	70	μA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	-	100	μA
Collector Emitter Breakdown Voltage at $-I_C$ = 50 mA		$-V_{(BR)CEO}$	80	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 mA		$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 3 A, $-I_B$ = 300 mA		$-V_{CE(sat)}$	-	-	1.7	V
Base Emitter On Voltage at $-V_{CE}$ = 5 V, $-I_C$ = 3 A		$-V_{BE(on)}$	-	-	1.5	V
Transition Frequency at $-V_{CE}$ = 5 V, $-I_C$ = 0.5 A		f_T	3	-	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz		C_{ob}	-	130	-	pF

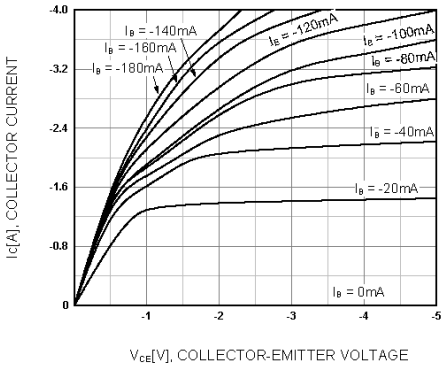


Figure 1. Static Characteristic

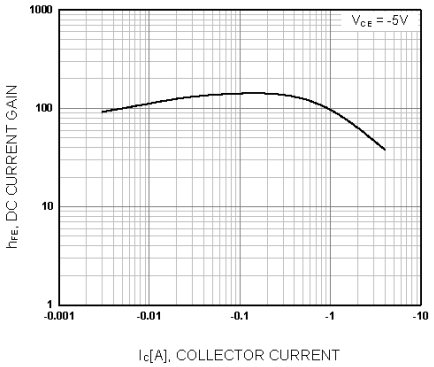


Figure 2. DC current Gain

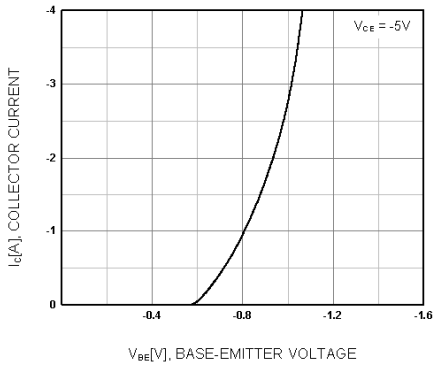


Figure 3. Base-Emitter Saturation Voltage

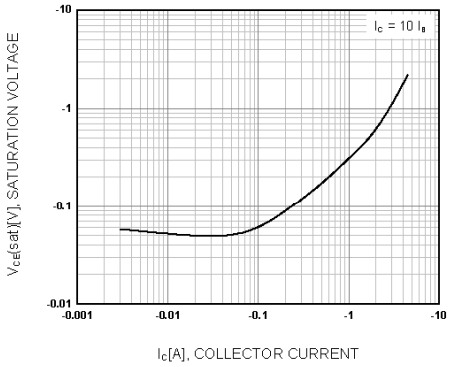


Figure 4. Collector-Emitter Saturation Voltage

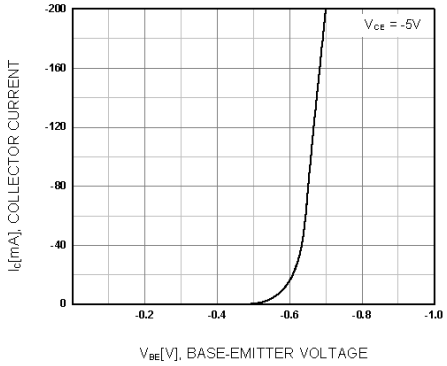


Figure 5. Base-Emitter On Voltage

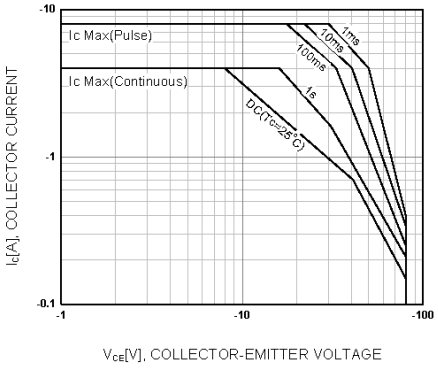
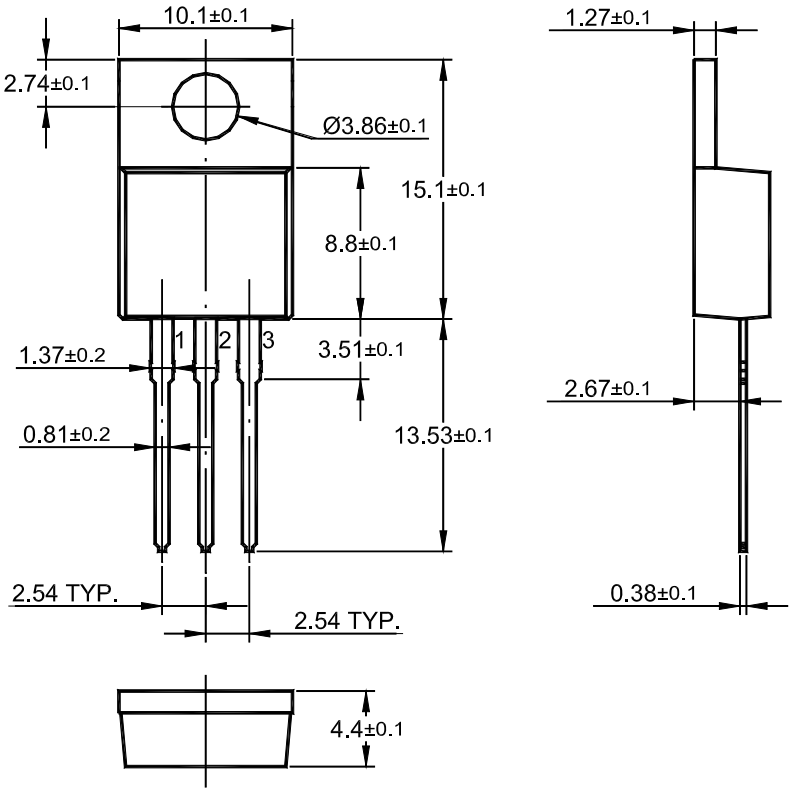


Figure 6. Safe Operating Area

TO-220 PACKAGE OUTLINE



Dimensions in mm