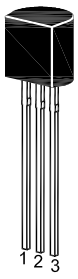
ST 2SB1116 / 2SB1116A

PNP Silicon Epitaxial Planar Transistor

Audio frequency power amplifier and medium speed switching.

The transistor is subdivided into three groups, Y, G and L, according to its DC current gain.



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Collector Base Voltage	2SB1116 2SB1116A	$-V_{CBO}$	60 80	V
Collector Emitter Voltage	2SB1116 2SB1116A	$-V_{CEO}$	50 60	V
Emitter Base Voltage		$-V_{EBO}$	6	V
Collector Current		$-I_C$	1	A
Collector Current (Pulse)		$-I_{CP}$	2	A
Power Dissipation		P_{tot}	0.75	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.	Max.	Unit
DC Current Gain					
at $-V_{CE}$ = 2 V, $-I_C$ = 0.1 A	Y	h_{FE}	135	270	-
	G	h_{FE}	200	400	-
	L	h_{FE}	300	600	-
at $-V_{CE}$ = 2 V, $-I_C$ = 1 A		h_{FE}	81	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 60 V		$-I_{CBO}$	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 6 V		$-I_{EBO}$	-	100	nA
Collector Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 50 mA		$-V_{CE(sat)}$	-	0.4	V
Base Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 50 mA		$-V_{BE(sat)}$	-	1.2	V
Base Emitter On Voltage at $-V_{CE}$ = 2 V, $-I_C$ = 50 mA		$-V_{BE(on)}$	0.6	0.7	V
Gain Bandwidth Product at $-V_{CE}$ = 2 V, $-I_C$ = 100 mA		f_T	70	-	MHz

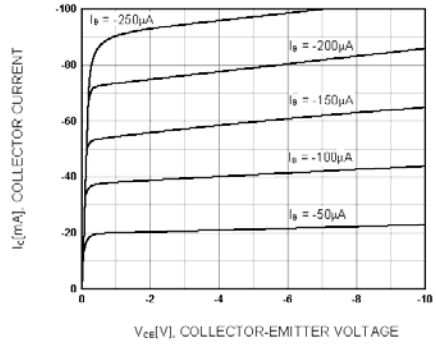


Figure 1. Static Characteristic

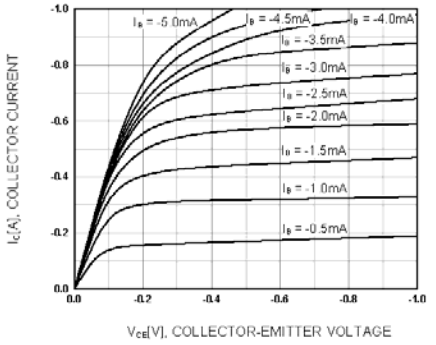


Figure 2. Static Characteristic

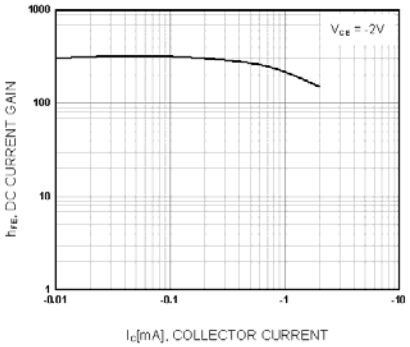


Figure 3. DC current Gain

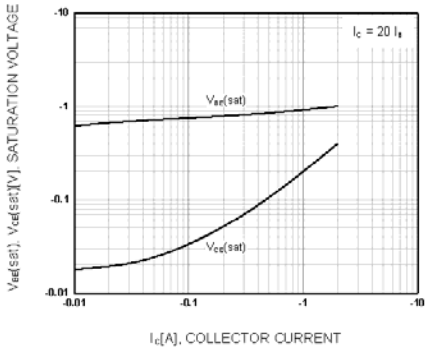


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

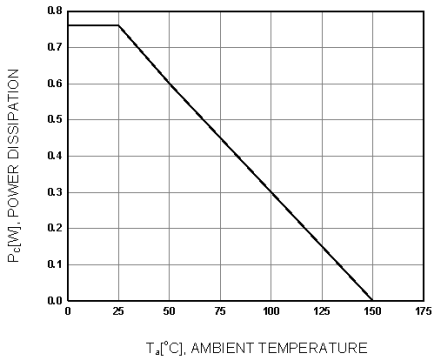


Figure 5. Power Derating