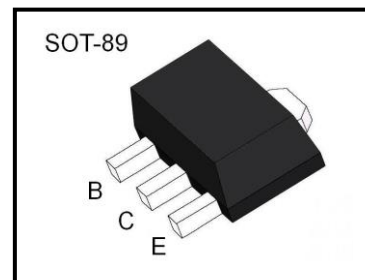


Applications

- Medium Power General Purposes
- Driver Stages of Audio Amplifiers

Features

- Low Voltage
- High Current
- Complementary types: BCX51



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	45	V
Collector-Emitter Voltage	BV_{CEO}	45	V
Emitter-Base Voltage	BV_{EBO}	5	V
Collector Current	I_C	1	A
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	45			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 1mA, I_B = 0$	45			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 100\mu A, I_C = 0$	5			V
Collector-base cut-off current	I_{CBO}	$V_{CB} = 30V, I_E = 0$			100	nA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			100	nA
DC current gain*	h_{FE}	$V_{CE} = 2V, I_C = 5mA$	25			
		$V_{CE} = 2V, I_C = 150mA$	63		250	
		$V_{CE} = 2V, I_C = 500mA$	25			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			0.5	V
Base-emitter On Voltage*	$V_{BE(on)}$	$V_{CE} = 2V, I_C = -500mA$			1.0	V

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

h_{FE} Classification

Type	BCX54	BCX54-10	BCX54-16
Range	63-250	63-160	100-250
Marking	BA	BC	BD

Typical Characteristics

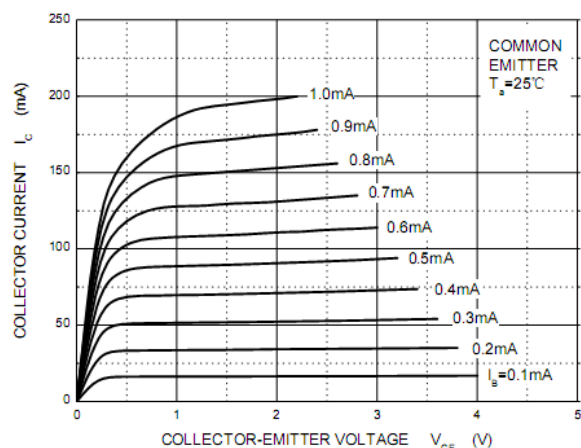


Figure 1. Static Characteristic

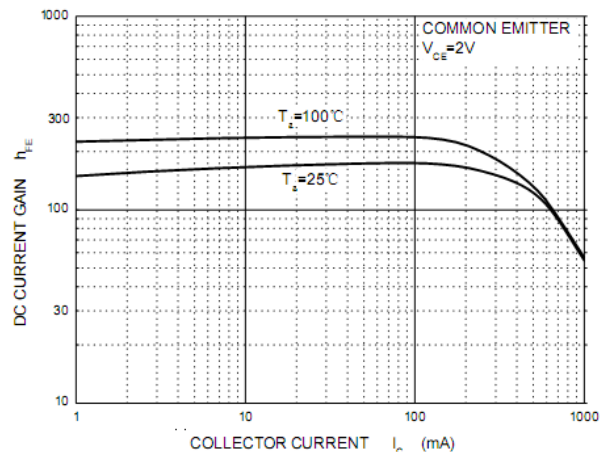


Figure 2. DC current Gain

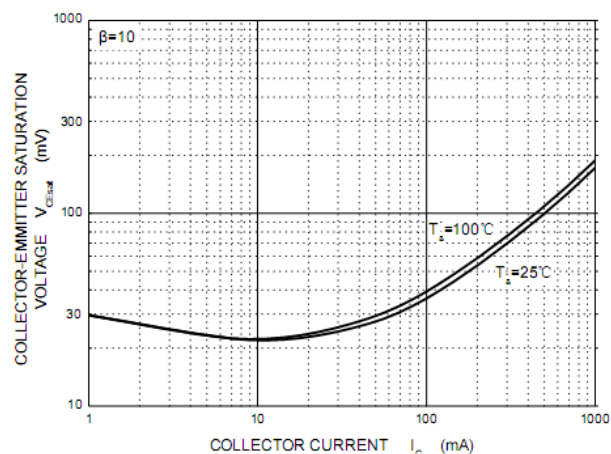


Figure 3. Collector-Emitter Saturation Voltage

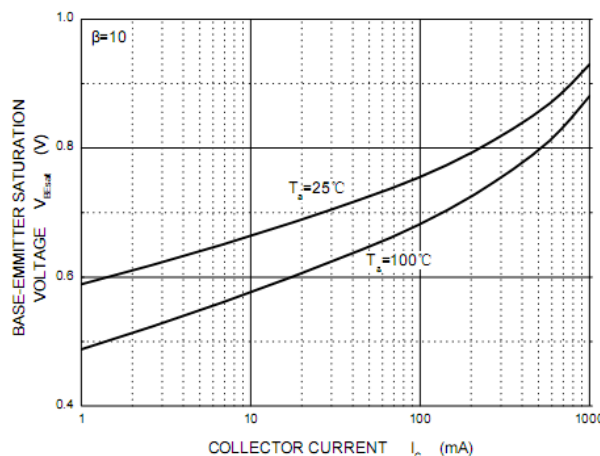


Figure 4. Base-Emitter Saturation Voltage

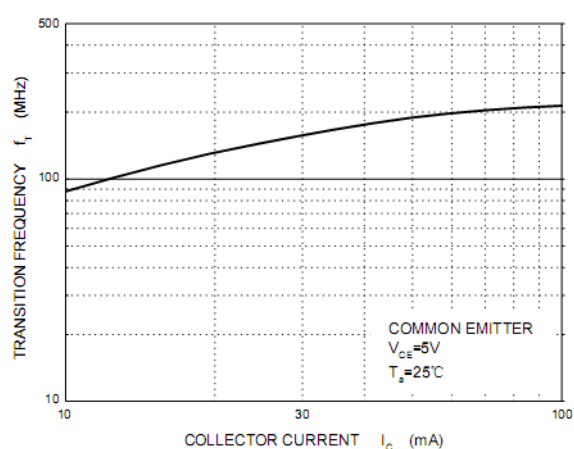


Figure 5. Current Gain Bandwidth Product

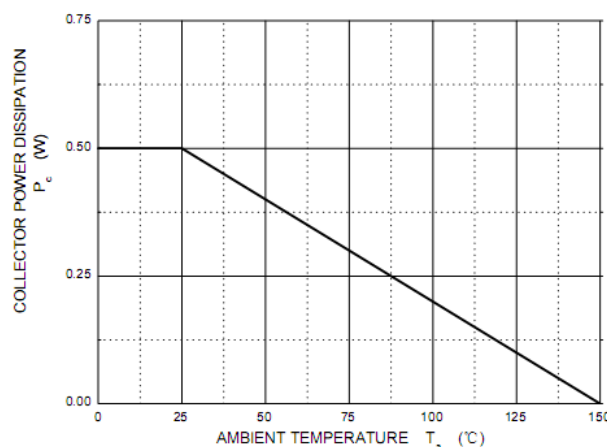
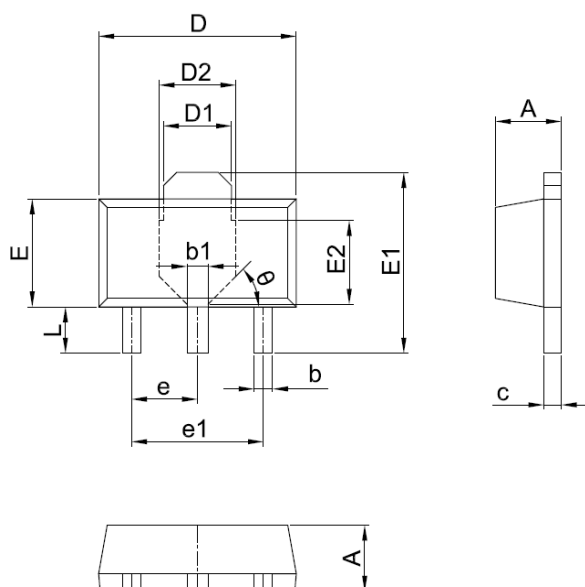


Figure 6. Power Derating

Package Dimensions



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047