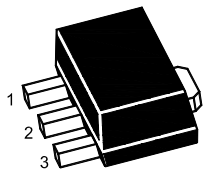
BCX53U

PNP Silicon Epitaxial Planar Transistor

Medium Power Transistor



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	100	V
Collector Emitter Voltage	$-V_{CEO}$	80	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	1	A
Peak Collector Current	$-I_{CM}$	1.5	A
Total Power Dissipation	P_{tot}	0.5 [1] 1.3 [2]	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 65 to + 150	℃

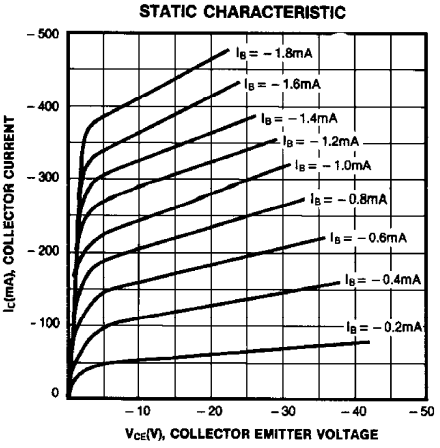
[1] Device mounted on an FR4 Printed-Circuit Board(PCB), single-sided copper, tin-plated and standard footprint.

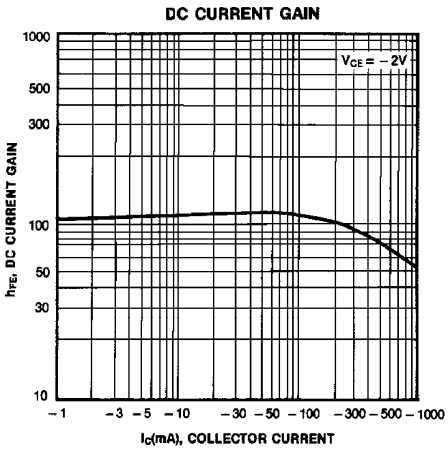
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for collector 6 cm^2

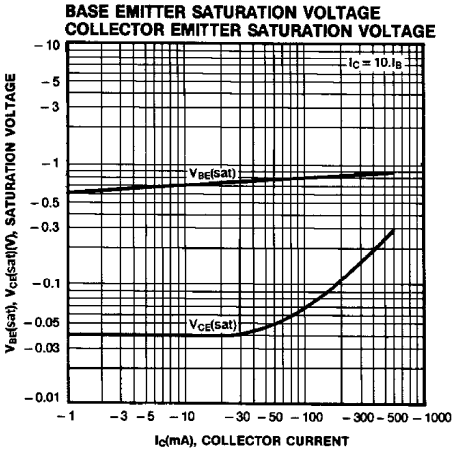
Characteristics at T_a = 25℃

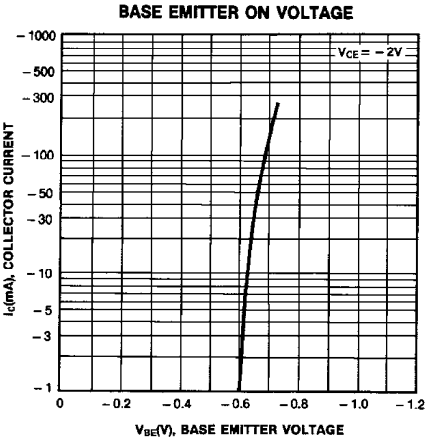
Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $-V_{CE}$ = 2 V, $-I_C$ = 5 mA		h_{FE}	40	-	-	-
at $-V_{CE}$ = 2 V, $-I_C$ = 150 mA	BCX53-10U	h_{FE}	63	-	160	-
	BCX53-16U	h_{FE}	100	-	250	-
at $-V_{CE}$ = 2 V, $-I_C$ = 500 mA		h_{FE}	25	-	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 30 V		$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C$ = 100 µA		$-V_{(BR)CBO}$	100	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA		$-V_{(BR)CEO}$	80	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 100 µA		$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{CE(sat)}$	-	-	0.5	V
Base Emitter Voltage at $-V_{CE}$ = 2 V, $-I_C$ = 500 mA		$-V_{BE}$	-	-	1	V
Transition Frequency at $-V_{CE}$ = 5 V, $-I_C$ = 50 mA, f = 100 MHz		f_T	-	145	-	MHz
Collector Capacitance at $-V_{CB}$ = 15 V, f = 1 MHz		C_c	-	15	-	pF

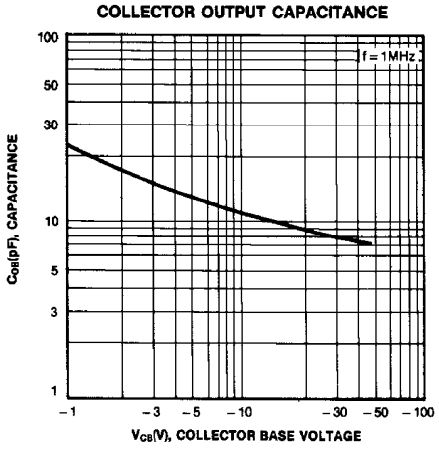
TOP DYNAMIC

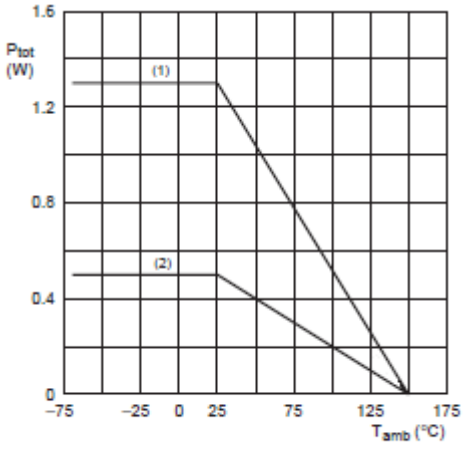








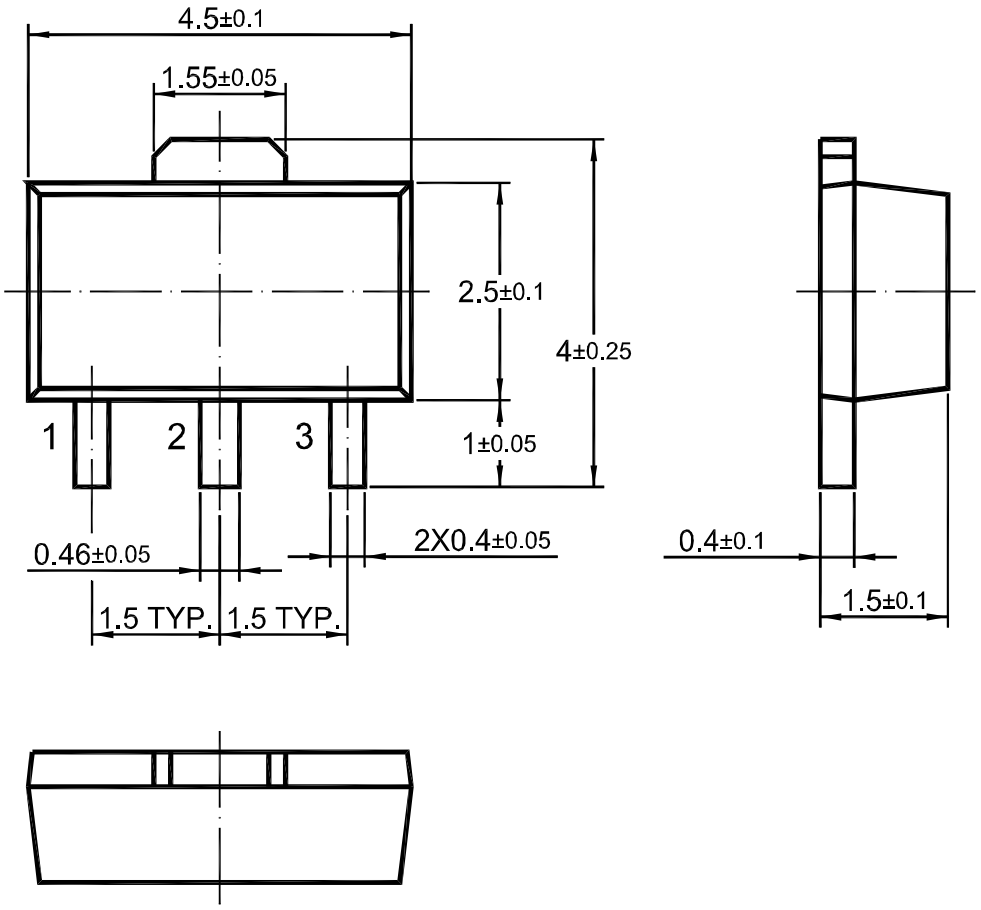




(1) FR4 PCB, mounting pad for collector 6 cm²
(2) FR4 PCB, standard footprint

Power derating curves

SOT-89 PACKAGE OUTLINE



Dimensions in mm

TOP DYNAMIC