

Plastic-Encapsulate Transistors

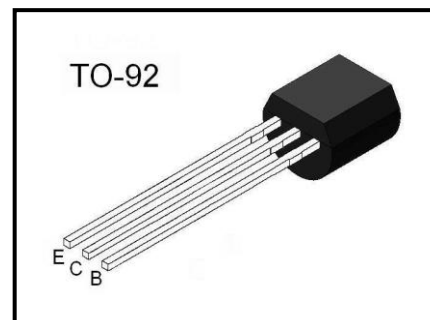
TRANSISTOR PNP

APPLICATION

◆General purpose medium power amplifiers

FEATURES

- ◆For AF driver and output stages
- ◆High collector current
- ◆Low collector-emitter saturation voltage
- ◆Complementary types: BC639



Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	-100	V
Collector-emitter voltage	BV_{CEO}	-80	V
Emitter-base voltage	BV_{EBO}	-5	V
Collector current	I_C	-1	A
Collector power dissipation	P_C	1	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 ~ + 150	℃

Electrical Characteristics (Ta=25℃)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-base breakdown voltage	$I_C = -100\mu A, I_E = 0$	BV_{CBO}	-100			V
Collector-emitter breakdown voltage	$I_C = -10mA, I_B = 0$	BV_{CEO}	-80			V
Emitter-base breakdown voltage	$I_E = -100\mu A, I_C = 0$	BV_{EBO}	-5			V
Collector cut-off current	$V_{CB} = -100V, I_E = 0$	I_{CBO}			-0.1	μA
Emitter cut-off current	$V_{EB} = -5V, I_C = 0$	I_{EBO}			-0.1	μA
DC current gain	$V_{CE} = -2V, I_C = -5mA$	$h_{FE(1)}$	25			
	$V_{CE} = -2V, I_C = -150mA$	$h_{FE(2)}$	63		400	
	$V_{CE} = -2V, I_C = -500mA$	$h_{FE(3)}$	25			
Collector-emitter saturation voltage	$I_C = -500mA, I_B = -50mA$	$V_{CE(sat)}$			-0.5	V
Base-emitter on Voltage	$V_{CE} = -2V, I_C = -500mA$	$V_{BE(on)}$			-1	V
Transition frequency	$V_{CE} = -5V, I_B = -10mA$	f_T		100		MHz

$h_{FE(2)}$ Classification

RANK	BC640-10	BC640-16	BC640-25
RANGE	63~160	100~250	160~400
MARKING	BC640 10	BC640 16	BC640 25

Typical Characteristics

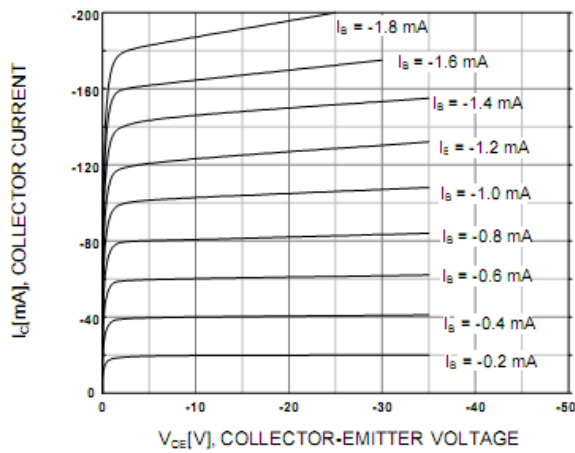


Figure 1. Static Characteristic

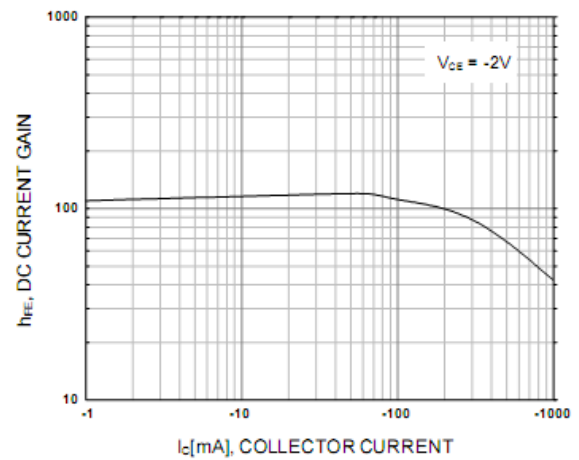


Figure 2. DC current Gain

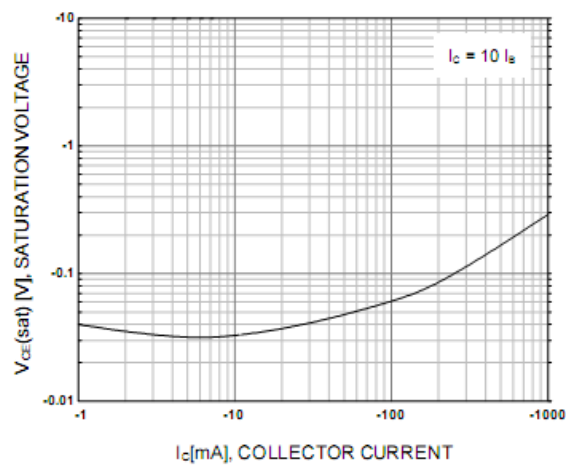


Figure 3. Collector-Emitter Saturation Voltage

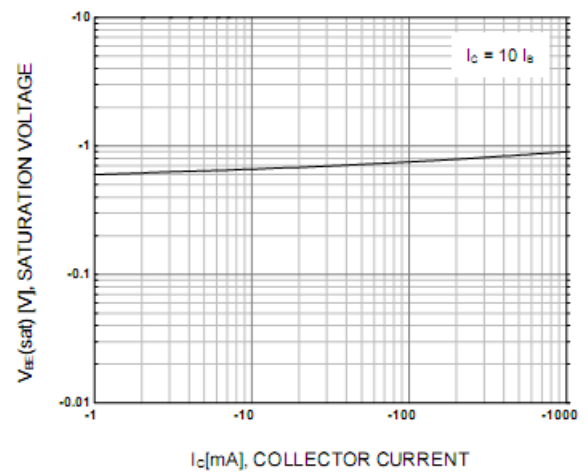


Figure 4. Base-Emitter Saturation Voltage

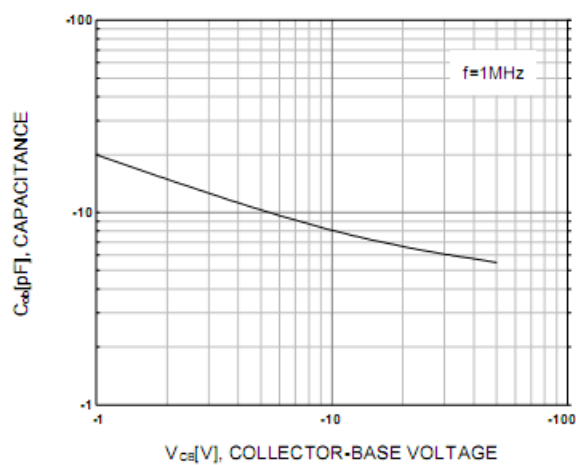


Figure 5. Collector Output Capacitance

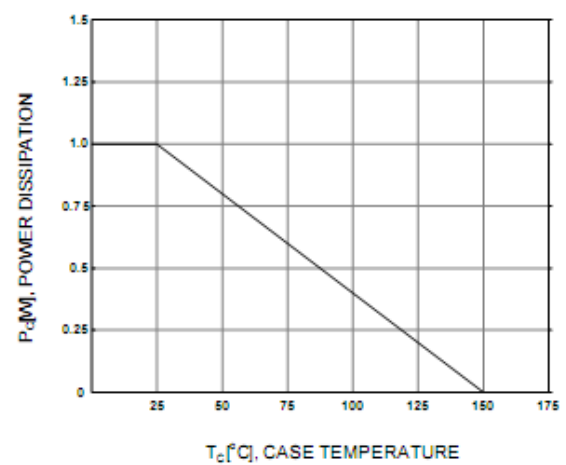


Figure 6. Power Derating

Ordering information

Package	Packing Description	Base Quantity
TO-92	Bulk	1000pcs/Bag
	Tape	2000pcs/Box

Package Dimensions

TO-92

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087

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