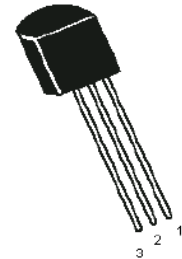


Low Power Bipolar Transistor



Pin Configuration:

1. Base
2. Collector
3. Emitter

Description:

- PNP silicon planar epitaxial transistors
- Driver stages of audio amplifier application

Absolute Maximum Ratings

Description	Symbol	BC640	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}		
Emitter-Base Voltage	V_{EBO}		
Collector Current Continuous	I_C	1	A
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above 25°C	P_D	800	mW
Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C		6.4	mW/ $^\circ\text{C}$
		2.75	W
		22	mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

Thermal Resistance

From Junction to Case	$R_{th(j-c)}$	45	$^\circ\text{C}/\text{W}$
From Junction to Ambient	$R_{th(j-a)}$	156	

Low Power Bipolar Transistor

Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise specified)

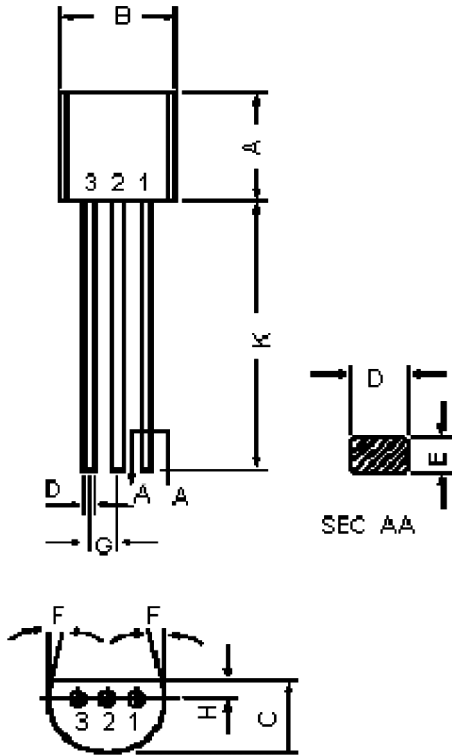
Description	Symbol	Test Condition	TBC635	Units
Collector-Emitter Voltage	V_{CEO}^*	$I_C = 10\text{mA}, I_B = 0$	>80	V
Collector-Base Voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$		
Emitter-Base Voltage	V_{EBO}	$I_E = 10\mu\text{A}, I_C = 0$		
Collector Cut off Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$	<100	nA
		$T_a = 125^\circ\text{C}$ $V_{CB} = 30\text{V}, I_E = 0$	<10	μA
Base Emitter On Voltage	$V_{BE(on)}^*$	$I_C = 500\text{mA}, V_{CE} = 2\text{V}$	<1	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	<0.5	
DC Current Gain	h_{FE}^*	$I_C = 5\text{mA}, V_{CE} = 2\text{V}$	>25	-
		$I_C = 150\text{mA}, V_{CE} = 2\text{V}$	40 - 160	
		Group-10	63 - 160	
		Group-16	100 - 250	
		$I_C = 500\text{mA}, V_{CE} = 2\text{V}$	>25	

Dynamic Characteristics

Transistors Frequency	f_T	$I_C = 50\text{mA}, V_{CE} = 2\text{V},$ $f = 100\text{MHz}$	200 (Typical)	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	7 (Typical)	μF
Input Capacitance	C_{ib}	$V_{BE} = 0.5\text{V}, I_C = 0,$ $f = 1\text{MHz}$	50 (Typical)	

*Pulse Test : Pulse Width = 300 μs , Duty Cycle = 2%

Low Power Bipolar Transistor



Dimensions	Min.	Max.
A	4.32	5.33
B	4.45	5.2
C	3.18	4.19
D	0.41	0.55
E	0.35	0.5
F	5°	
G	1.14	1.4
H		1.53
K	12.7	-

Dimensions : Millimetres

Pin Configuration:

1. Base
2. Collector
3. Emitter

Part Number Table

Description	Part Number
Transistor, PNP, TO-92	BC640

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