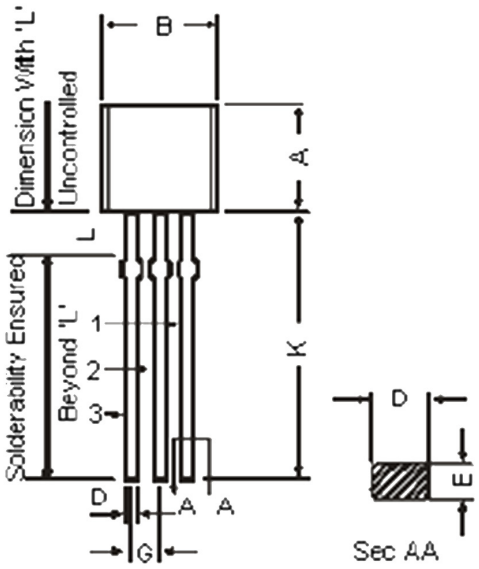
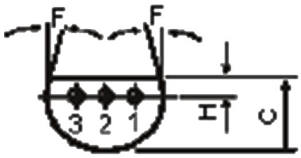
Bipolar Transistor

Description:

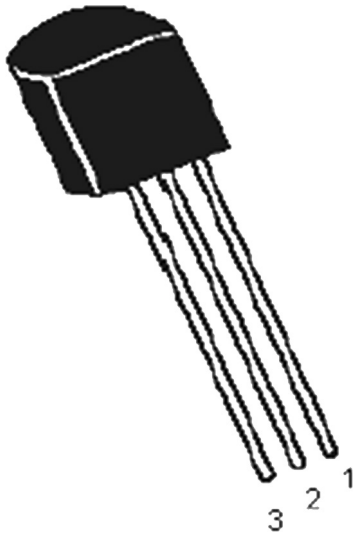
Silicon Planar Epitaxial Transistors.
General Purpose Transistors Best Suited for use in Driver and Output Stages of Audio Amplifier.



Dimensions	Minimum (mm)	Maximum (mm)
A	4.42	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H	1.20	1.53
K	12.70	-
L	1.982	2.082



Dimensions : Millimetres



Pin Configuration:

1. Emitter
2. Base
3. Collector

Bipolar Transistor

Absolute Maximum Ratings (T_a = 25°C unless specified otherwise)

Description	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	45	V
Collector Emitter Voltage	V_{CES}	50	
Emitter Base Voltage	V_{EBO}	5	
Collector Current Continuous	I_C	800	mA
Collector Current Peak	I_{CM}	1000	
Base Current Peak	I_{BM}	200	
Base Current Continuous	I_B	100	
Base Current Peak	I_{BM}	200	
Power Dissipation at Ta = 25°C Derate Above 25°C	P_D	625 5	mW mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +150	°C
Thermal Resistance			
Junction to Ambient in Free Air	$R_{th\ (j-a)}$	200	°C/W

Electrical Characteristics (T_a = 25°C unless specified otherwise)

Description	Symbol	Test Condition	Minimum	Maximum	Unit
Collector Emiiter Voltage	V_{CEO}	Ic = 1mA, I_R = 0	45	-	V
Collector Emiiter Voltage	V_{CES}	I_C = 100µA, I_E = 0	50	-	
Emitter Base Voltage	V_{EBO}	I_E = 10µA, I_C = 0	5.0	-	
Collector Cut off Current	I_{CBO}	V_{CB} = 20V, I_E = 0 V_{CB} = 20V, I_E = 0, T_j = 150°C	-	100 5	nA µA
Emitter Cut off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	-	10	µA
Collector Emitter Saturation Voltage	*$V_{CE\ (sat)}$	I_C = 500mA, I_B = 50mA	-	0.7	V
Base Emitter On Voltage	*$V_{BE\ (on)}$	I_C = 500mA, V_{CE} = 1V	-	1.2	

*Pulse Test: Pulse Width ≤300ms, Duty Cycle ≤2%.

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Electrical Characteristics (T_a = 25°C unless specified otherwise)

Description	Symbol	Test Condition	Minimum	Typical	Maximum	Unit
DC Current Gain	h_{FE}	IC = 100mA, VCE = 1V	100	400	-	-
Small Signal Characteristics						
Transistors Frequency	f_T	IC = 10mA, VCE = 5V, f = 35MHz PNP	-	100	-	MHz
Input Capacitance	C_{ib}	VBE = 10V, IE = 0, f = 1MHz PNP	-	8	-	pF

Specifications

V_{CEO} (V)	V_{CBO} Maximum (V)	I_C (A)	h_{FE} Minimum at I_C = 2mA	f_T Minimum (MHz)	P_{tot} (mW)	Package
45	50	0.8	100	60	625	TO-92

Part Number Table

Description	Part Number
Bipolar Transistor, PNP, -45V TO-92	BC327.25