

BF199

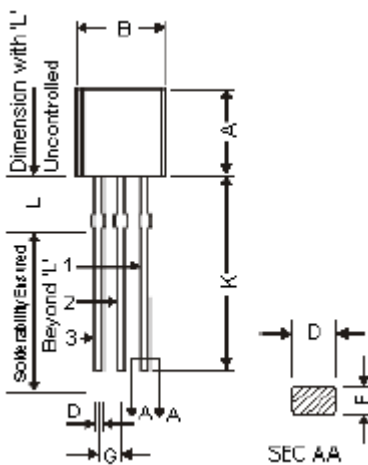
NPN Silicon Transistor



Feature:

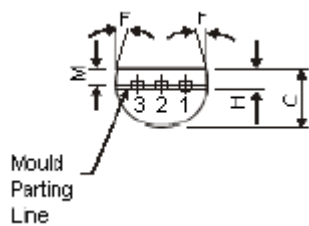
- NPN Silicon Planar Epitaxial RF Transistor.

TO-92 Plastic Package



Dimensions	Minimum	Maximum
A	4.32	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	
K	12.70	-
L	1.982	2.082
M	1.03	1.20

Dimensions : Millimetres



Pin Configuration:

1. Base
2. Emitter
3. Collector

Absolute Maximum Ratings

Parameters	Symbol	Value	Units
Collector Emitter Voltage	V_{CEO}	25	V
Collector Base Voltage	V_{CBO}	40	
Emitter Base Voltage	V_{EBO}	4.0	
Collector Current Continuous	I_C	100	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	350	mW
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above 25°C		2.8	mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$
Thermal Resistance			
Junction to Case	$R_{th(j-c)}$	125	$^\circ\text{C/W}$
Junction to Ambient in Free Air	$R_{th(j-a)}$	357	

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

Parameters	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Collector Emitter Voltage	V_{CEO}	$I_C = 1\text{mA}, I_B = 0$	25	-	-	V
Collector Base Voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	40	-	-	
Emitter Base Voltage	V_{EBO}	$I_E = 10\mu\text{A}, I_C = 0$	4	-	-	
Collector Cut off Current	I_{CBO}	$V_{CB} = 20\text{V}, I_E = 0$	-	-	100	nA
DC Current Gain	h_{FE}	$I_C = 7\text{mA}, V_{CE} = 10\text{V}$	40	-	-	-
Base Emitter On Voltage	$V_{BE(on)}$	$I_C = 7\text{mA}, V_{CE} = 10\text{V}$	-	-	0.9	V
Dynamic Characteristics						
Transistors Frequency	f_T	$I_C = 5\text{mA}, V_{CE} = 10\text{V}, f = 100\text{MHz}$	400	-	-	MHz
Common Emitter Feedback Capacitance	C_{re}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	-	0.35	pF
Noise Figure	NF	$I_C = 4\text{mA}, V_{CE} = 10\text{V}, R_S = 50\Omega, f = 35\text{MHz}$	-	2.5	-	dB

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Specifications

I_C Maximum (A)	V_{CEO} Maximum (V)	V_{CBO} Maximum (V)	P_{tot} at 25°C (W)	f_T Minimum (MHz)	h_{FE} Minimum at $I_C = 7mA$	Package and Pin Out	Part Number
0.025	25	40	0.5	550	38	TO-92	BF199

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NPN Silicon Transistor



Notes:

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