

TO-126 Plastic-Encapsulate Transistors

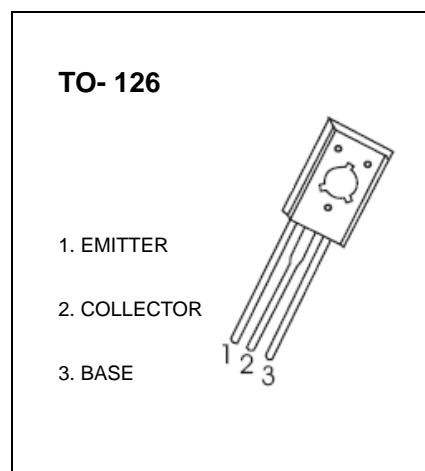
2SB649/2SB649A TRANSISTOR (PNP)

FEATURES

- Low Frequency Power Amplifier Complementary Pair with 2SD669/A

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-180	V
V _{CEO}	Collector-Emitter Voltage		
	2SB649	-120	V
	2SB649A	-160	
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current –Continuous	-1.5	A
P _C	Collector Power Dissipation	1	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



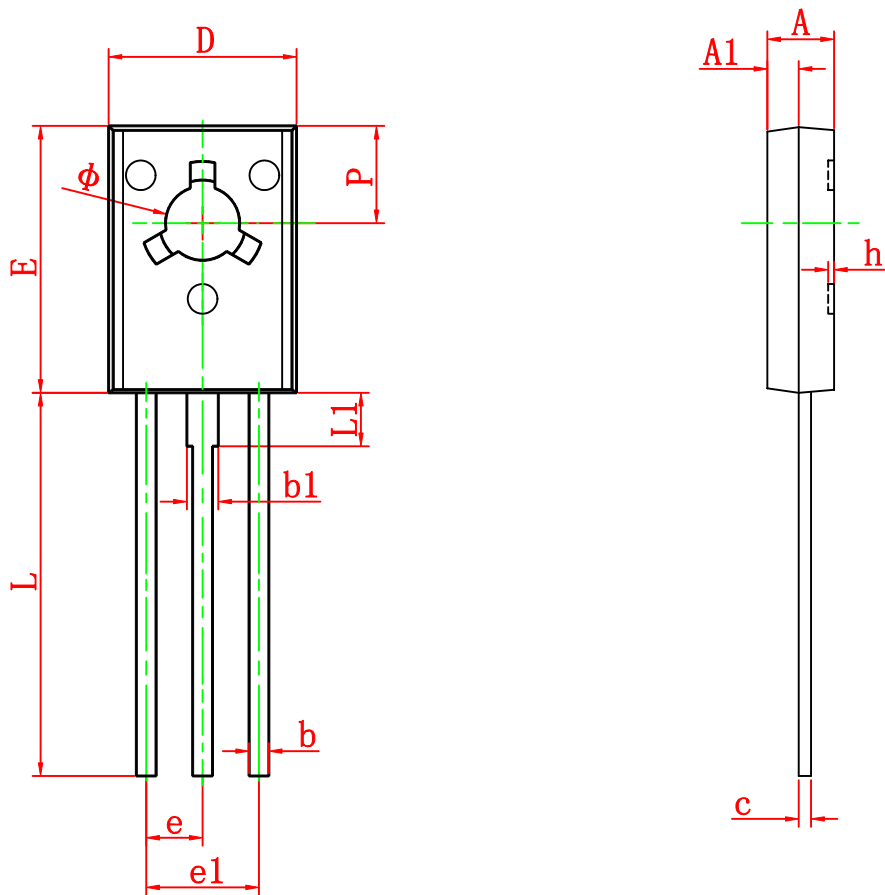
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = -1mA, I _E = 0	-180			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = -10mA, I _B = 0	2SB649	-120		V
			2SB649A	-160		
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -1mA, I _C = 0	-5			V
Collector cut-off current	I _{CB0}	V _{CB} = -160V, I _E = 0			-10	μA
Emitter cut-off current	I _{EBO}	V _{EB} = -4V, I _C = 0			-10	μA
DC current gain	h _{FE(1)}	V _{CE} = -5V, I _C = -150mA	2SB649	60	320	
			2SB649A	60	200	
	h _{FE(2)}	V _{CE} = -5V, I _C = -500mA	30			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -500mA, I _B = -50mA			-1	V
Base-emitter voltage	V _{BE}	V _{CE} = -5V, I _C = -150mA			-1.5	V
Transition frequency	f _T	V _{CE} = -5V, I _C = -150mA		140		MHz
Collector output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz		27		pF

CLASSIFICATION OF h_{FE(1)}

Rank		B	C	D
Range	2SB649	60-120	100-200	160-320
	2SB649A	60-120	100-200	

TO-126 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Φ	3.000	3.200	0.118	0.126