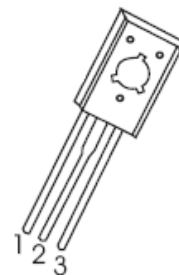
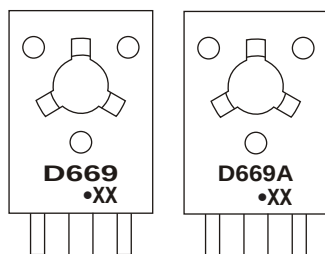


**JSCJ TO-126 Plastic-Encapsulate Transistors****2SD669 / 2SD669A** TRANSISTOR (NPN)**FEATURES**

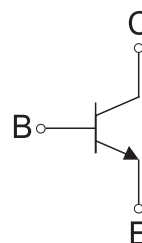
- Low Frequency Power Amplifier Complementary
- Pair with 2SB649 / 2SB649A

TO-126

1. EMITTER
2. COLLECTOR
3. BASE

**MARKING**

D669,D669A=Device code
Solid dot= Green molding compound device, if none, the normal device
XX=Code

Equivalent Circuit**ORDERING INFORMATION**

Part Number	Package	Packing Method	Pack Quantity
2SD669	TO-126	Bulk	200pcs/Bag
2SD669A	TO-126	Bulk	200pcs/Bag
2SD669-TU	TO-126	Tube	60pcs/Tube
2SD669A-TU	TO-126	Tube	60pcs/Tube

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

Symbol	Parameter		Value	Unit
V _{CBO}	Collector- Base Voltage		180	V
V _{CEO}	Collector-Emitter Voltage	2SD669	120	V
		2SD669A	160	
V _{EBO}	Emitter-Base Voltage		5	V
I _C	Collector Current -Continuous		1.5	A
P _C	Collector Dissipation		1	W
T _J , T _{stg}	Operation Junction and Storage Temperature Range		-55-150	°C

ELECTRICAL CHARACTERISTICS

$T_a = 25^\circ\text{C}$ unless otherwise specified

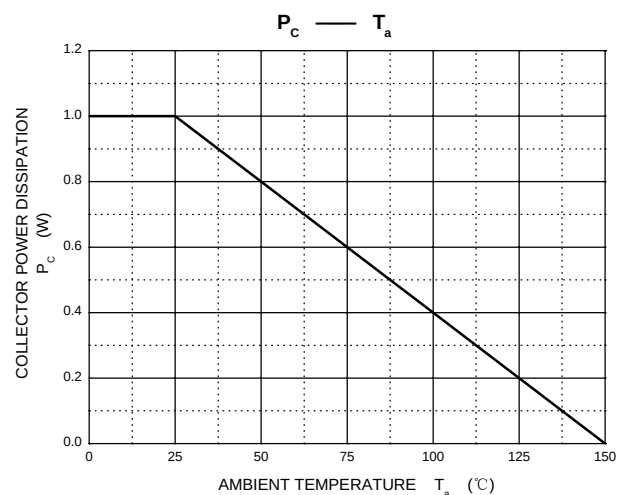
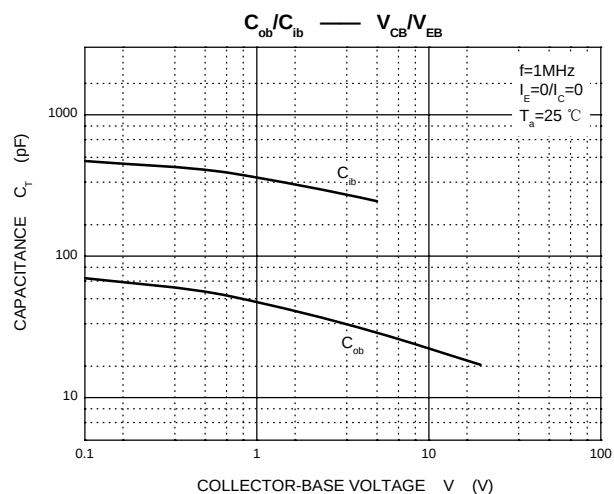
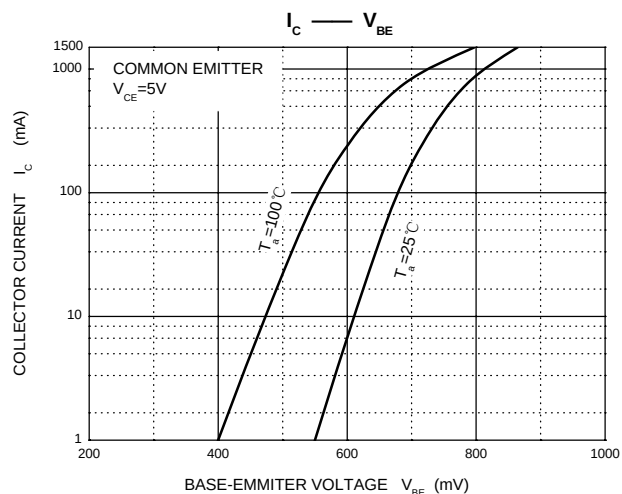
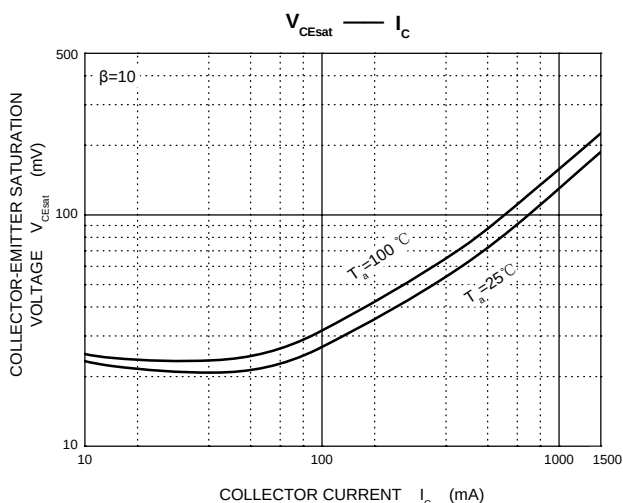
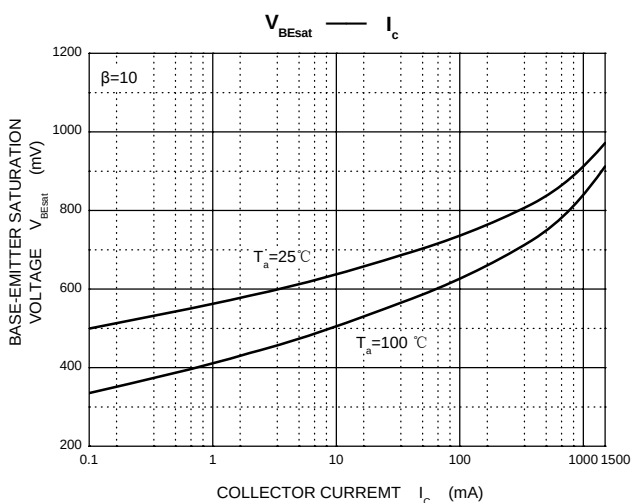
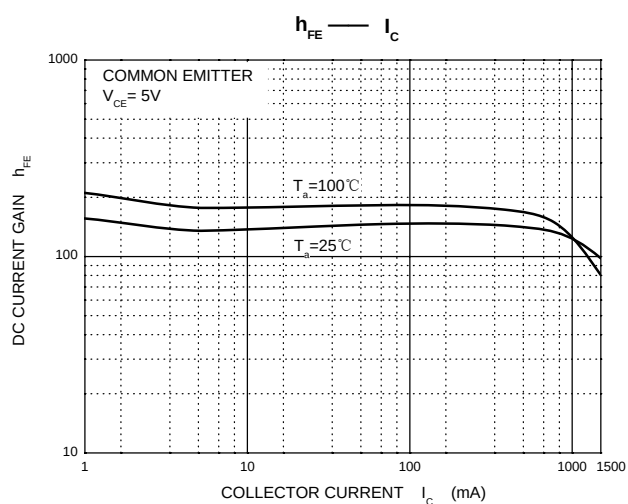
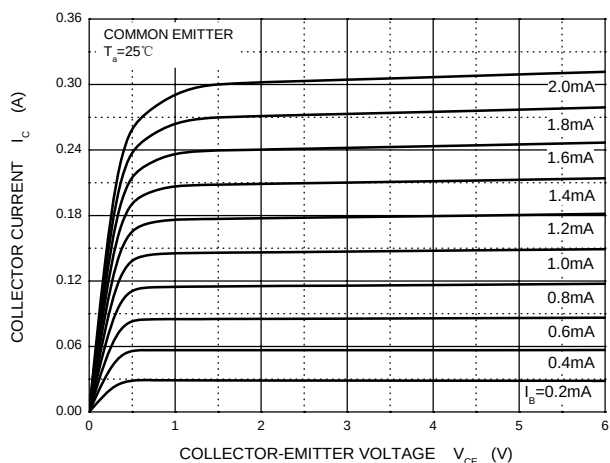
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$		180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	2SD669	120			V
			2SD669A	160			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$		5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 160\text{V}, I_E = 0$				10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$				10	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 5\text{V}, I_C = 150\text{mA}$	2SD669	60		320	
			2SD669A	60		200	
	$h_{FE(2)}$	$V_{CE} = 5\text{V}, I_C = 500\text{mA}$		30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$				1	V
Base-emitter voltage	V_{BE}	$V_{CE} = 5\text{V}, I_C = 150\text{mA}$				1.5	V
Transition frequency	f_T	$V_{CE} = 5\text{V}, I_C = 150\text{mA}$			140		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			14		pF

CLASSIFICATION OF $h_{FE(1)}$

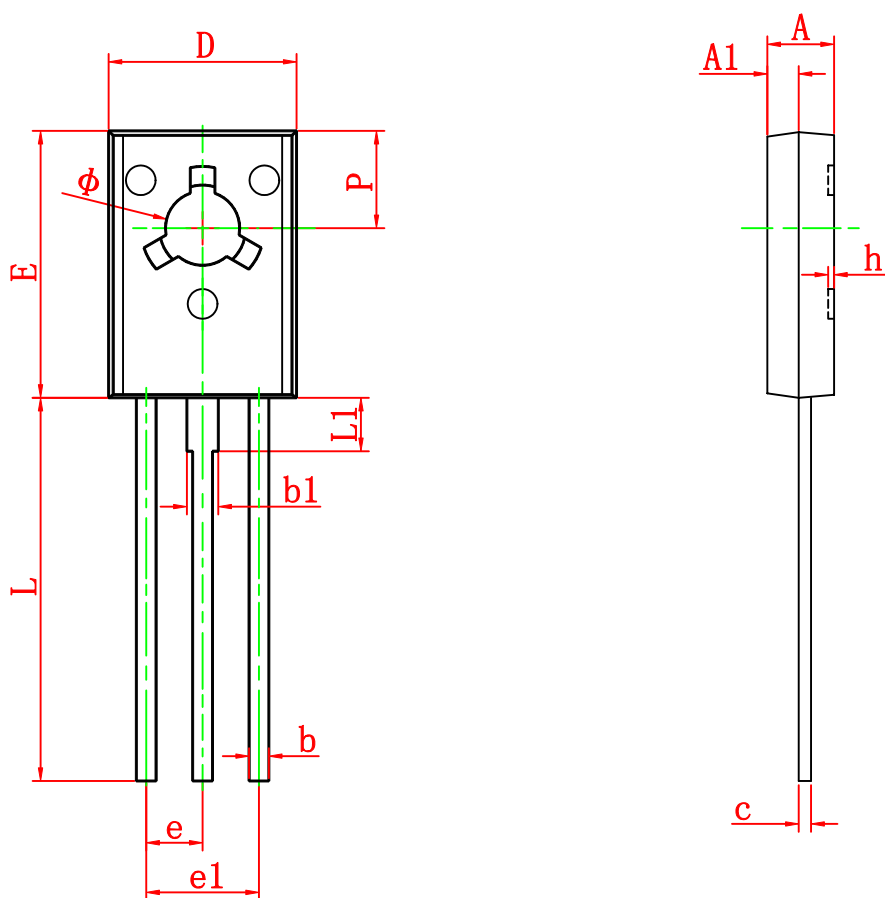
Rank		B	C	D
Range	2SD669	60-120	100-200	160-320
	2SD669A	60-120	100-200	160-320

Typical Characteristics

Static Characteristic



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