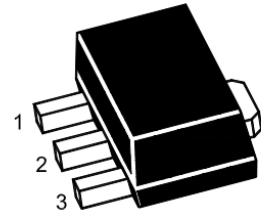




## 2SD669 / 2SD669A TRANSISTOR (NPN)

### FEATURES

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



1.Base 2.Collector 3.Emitter

**SOT-89-3L**

**MARKING** : D669,D669A

### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector- Base Voltage	180	V
V <sub>CEO</sub>	Collector-Emitter Voltage	2SD669	120
		2SD669A	160
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	1.5	A
P <sub>C</sub>	Collector Dissipation	1	W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55-150	°C



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

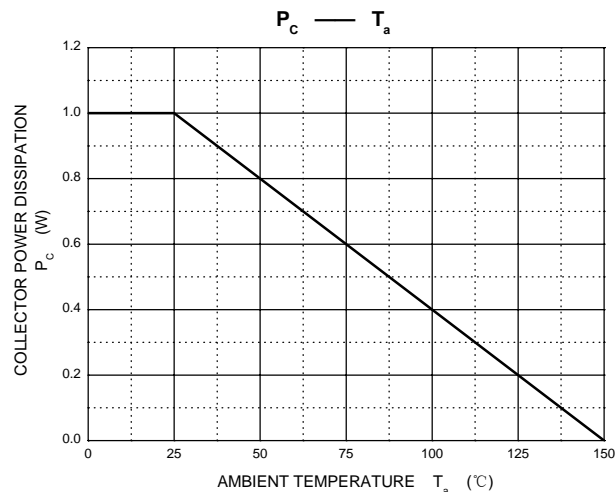
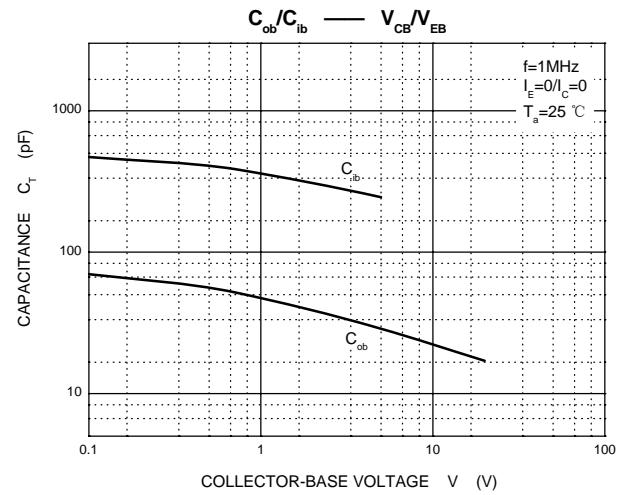
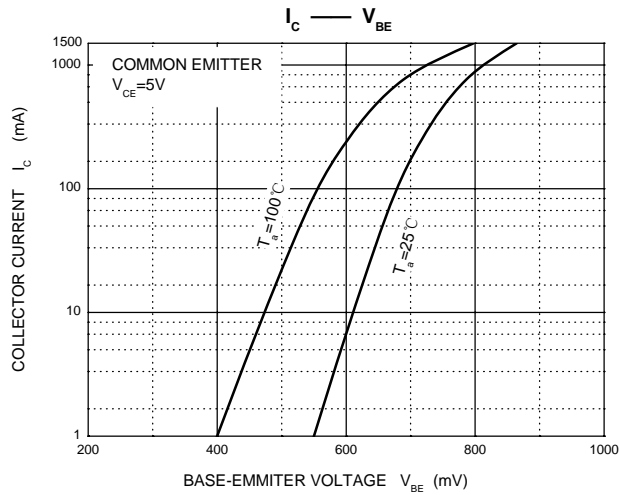
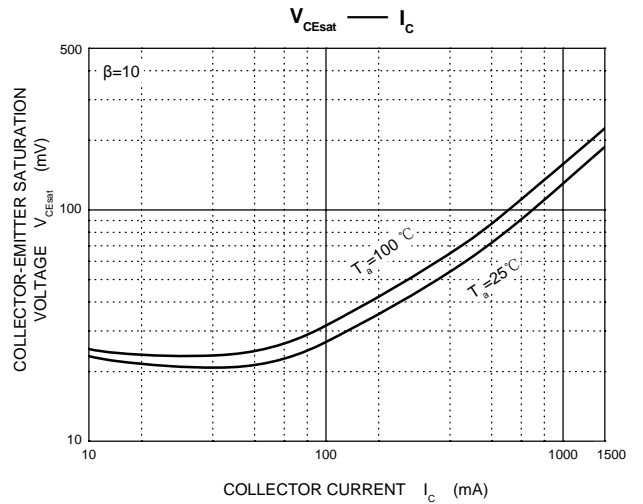
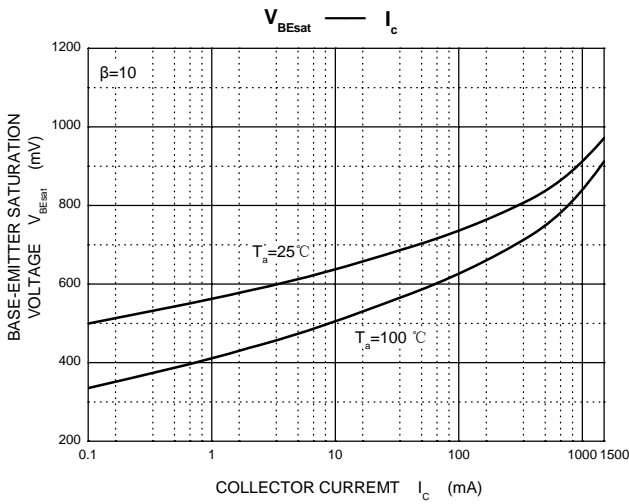
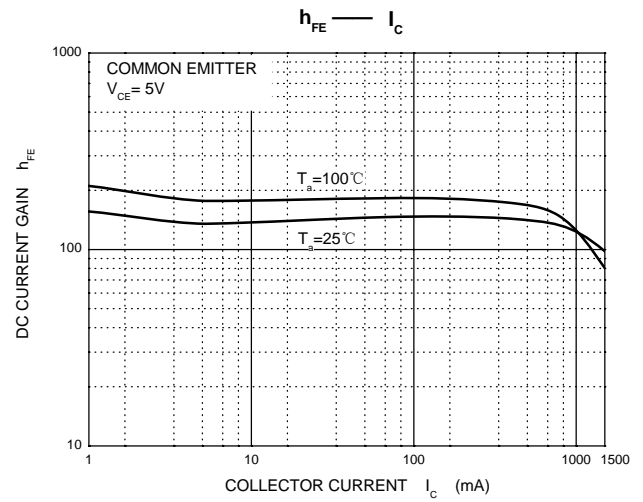
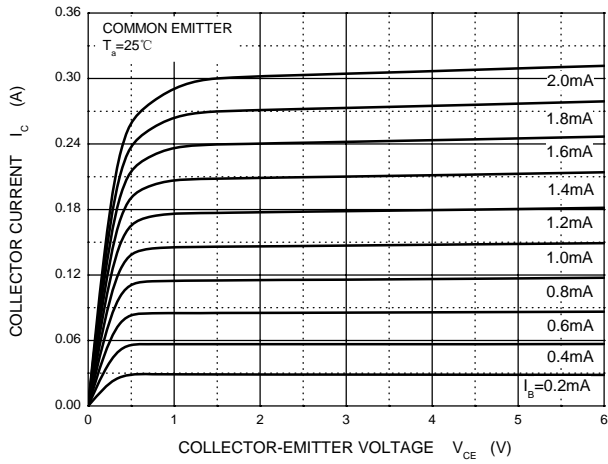
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	180			V	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	2SD669	120		V	
			2SD669A	160			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	5			V	
Collector cut-off current	$I_{CBO}$	$V_{CB}=160\text{V}, I_E=0$			10	$\mu\text{A}$	
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			10	$\mu\text{A}$	
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	

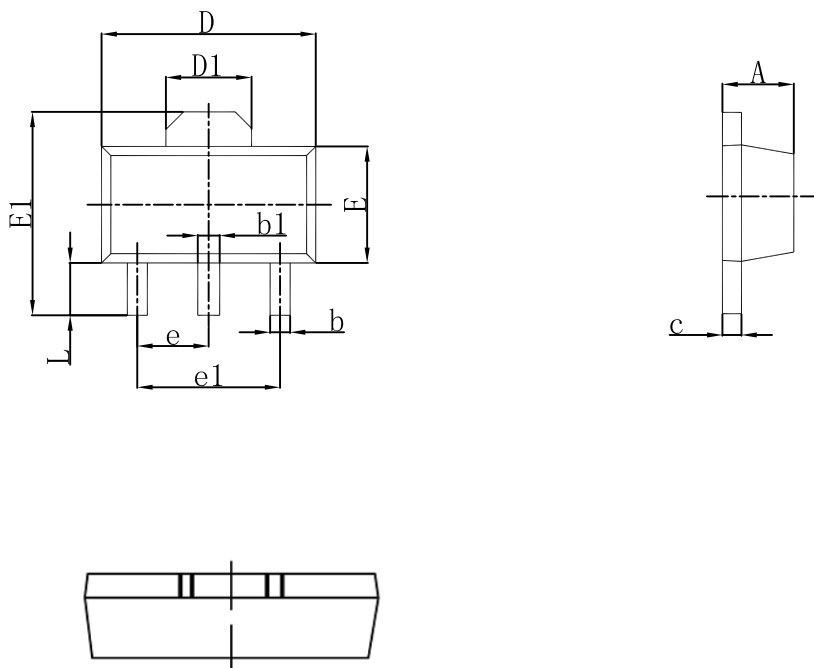


### Static Characteristic





### SOT-89-3L Outlines Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047