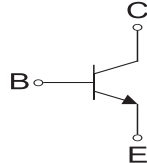
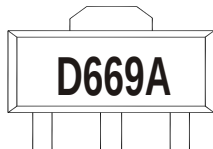


SOT-89-3L Plastic-Encapsulate Transistors**2SD669A**

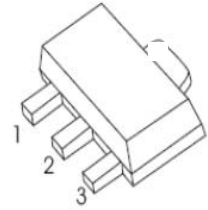
TRANSISTOR (NPN)

FEATURES

- Low Frequency Power Amplifier

MARKING**Equivalent Circuit**

Rank	B	C
Range	60-120	100-200

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER

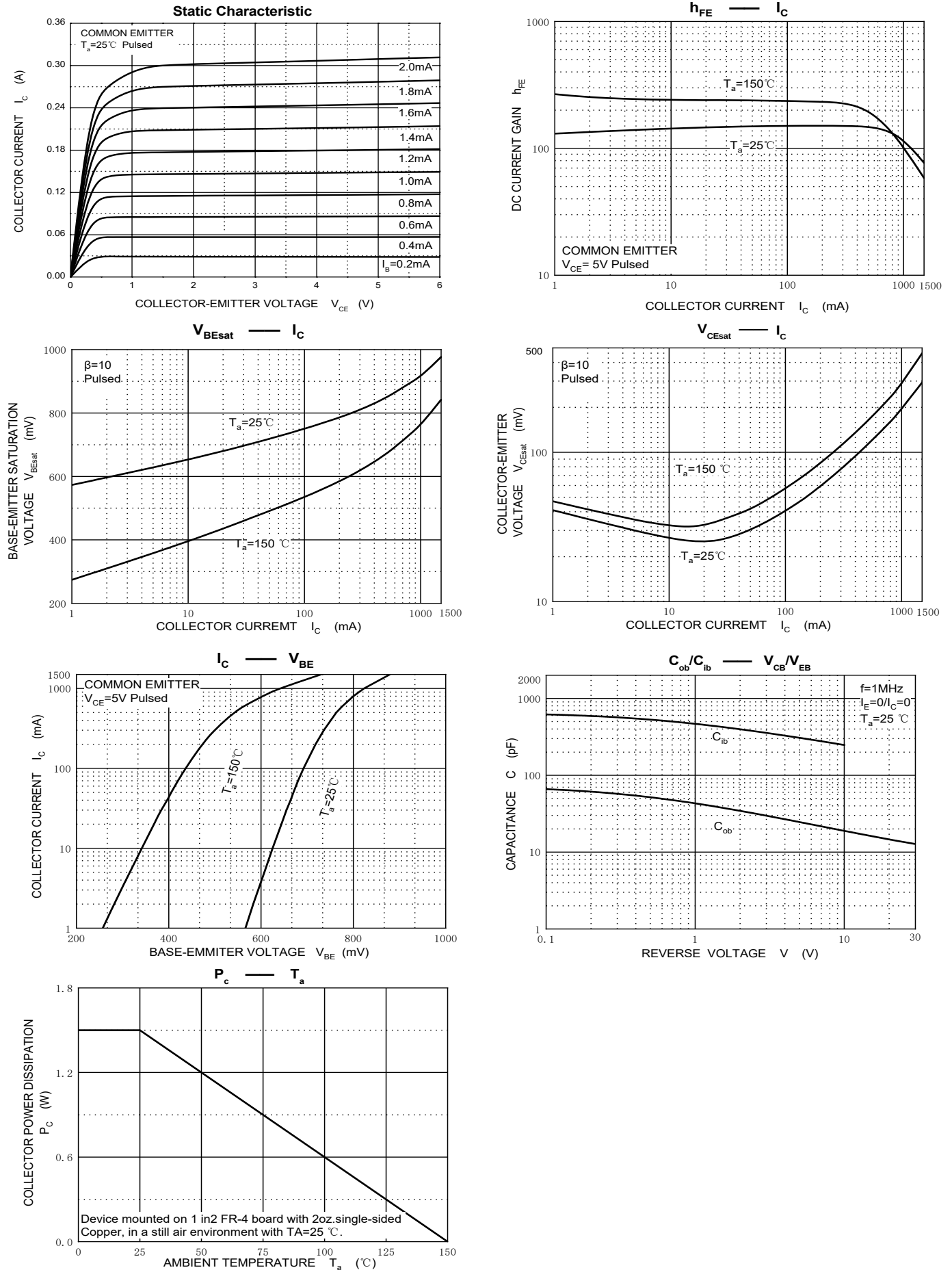
MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1.5	A
P_D^1	Power Dissipation	1.5	W
$R_{\theta JA}^1$	Thermal Resistance From Junction To Ambient	83.3	$^{\circ}\text{C/W}$
T_J, T_{STG}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

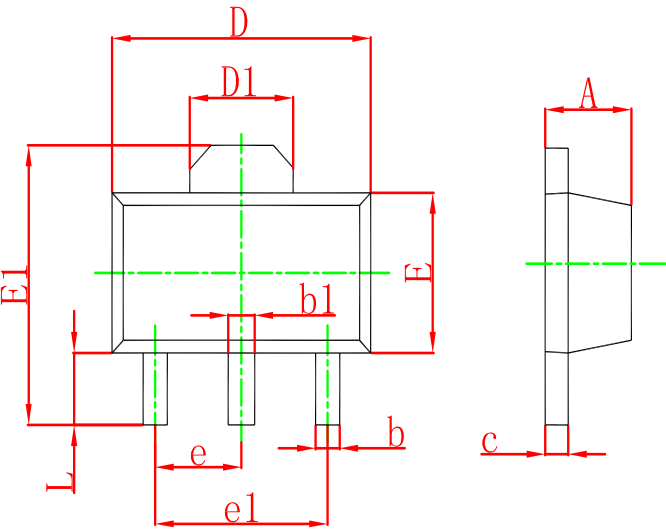
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

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 ²	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{BC}=160\text{V}, I_E=0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{BE}=4\text{V}, I_C=0$			10	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=150\text{mA}$	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 on voltage	$V_{BE(on)}$	$V_{CE}=5\text{V}, I_C=150\text{mA}$			1.5	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		20		pF
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=150\text{mA}$ $f=10\text{MHz}$	10			MHz

Typical Characteristics

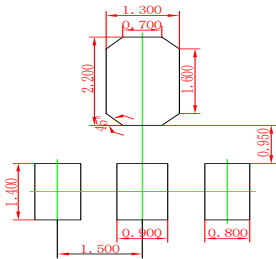


Package Outline Dimensions (SOT-89-3L)



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

Suggested Pad Layout (SOT-89-3L)



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.