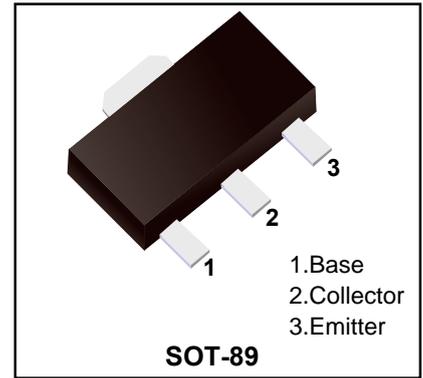


Plastic-Encapsulate Transistors
TRANSISTOR (NPN)

FEATURES

†Low Frequency Power Amplifier Complementary Pair
with 2SB649



Maximum Ratings (Ta=25°C Unless Otherwise Noted)

Parameter	Symbols	Value	Units
Collector- Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	1.5	A
Collector Dissipation	P_C	0.75	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	167	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~+ 150	°C

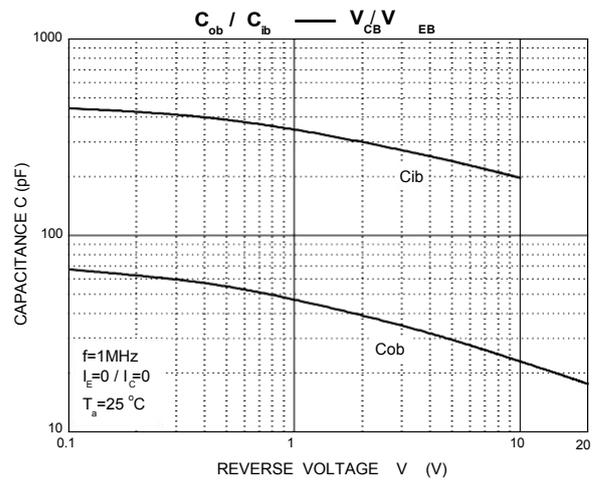
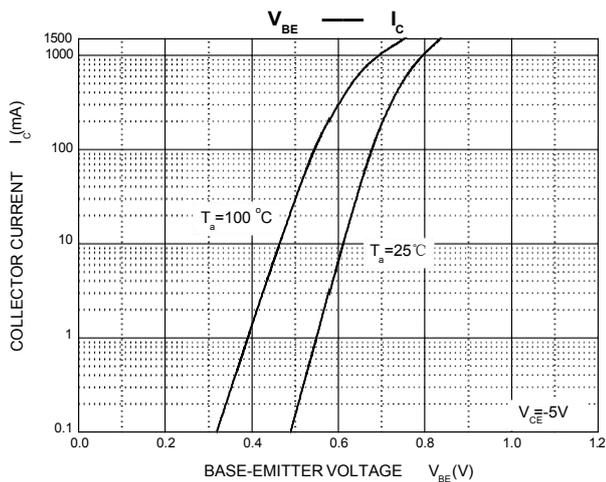
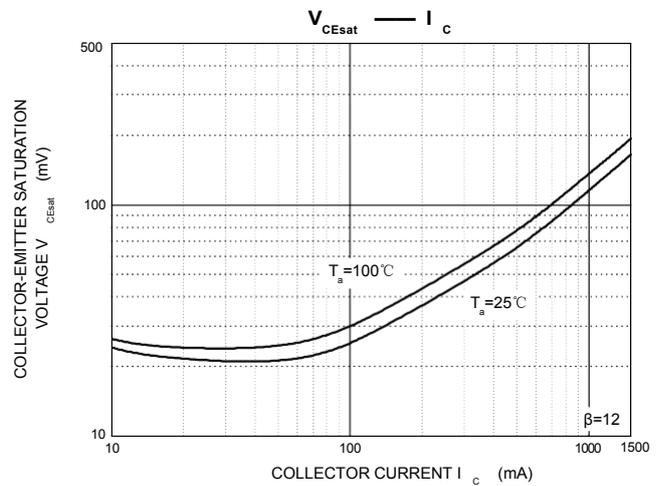
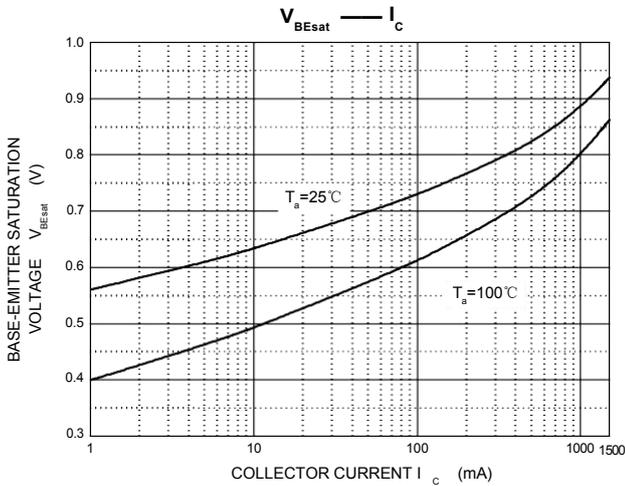
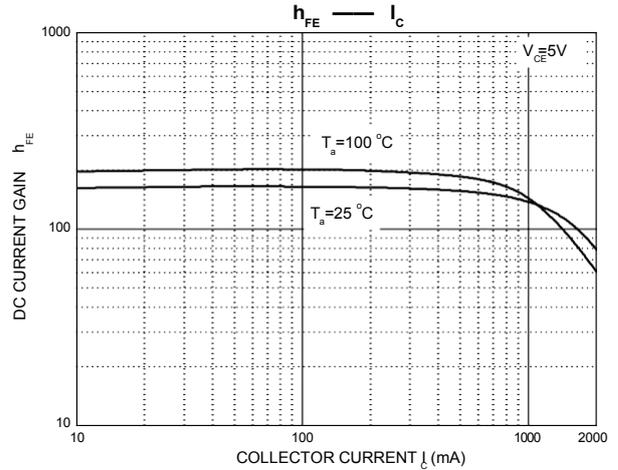
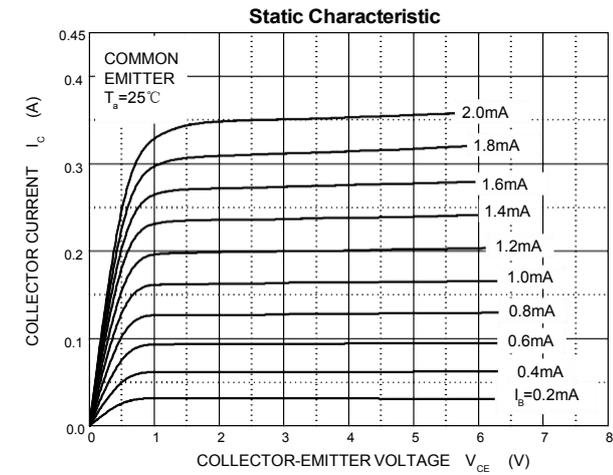
Electrical Characteristics (Ta=25°C)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Collector-base breakdown voltage	$I_C=1mA, I_E=0$	$V_{(BR)CBO}$	180			V
Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	$V_{(BR)CEO}$	160			V
Emitter-base breakdown voltage	$I_E=1mA, I_C=0$	$V_{(BR)EBO}$	5			V
Collector cut-off current	$V_{CB}=160V, I_E=0$	I_{CBO}			10	μA
DC current gain	$V_{CE}=5V, I_C=150mA$	$h_{FE(1)}$	60		320	
	$V_{CE}=5V, I_C=500mA$	$h_{FE(2)}$	30			
Collector-emitter saturation voltage	$I_C=600mA, I_B=50mA$	$V_{CE(sat)}$			1	V
Base-emitter voltage	$V_{CE}=5V, I_C=150mA$	V_{BE}			1.5	V
Transition frequency	$V_{CE}=5V, I_C=150mA$	f_T		140		MHz
Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$	C_{ob}		14		pF

CLASSIFICATION of $h_{FE(1)}$

Rank	2SD669SI-B	2SD669SI-C	2SD669SI-D
Range	60-120	100-200	160-320
Marking	D669 B	D669 C	D669 D

Typical Characteristics



$P_c - T_a$

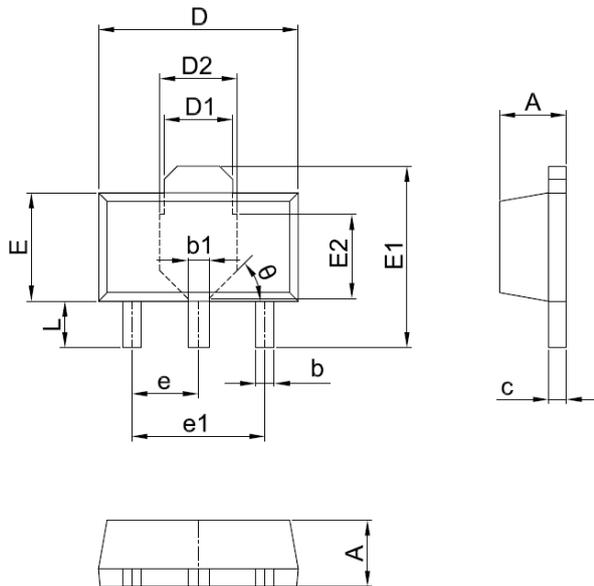
Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-89

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047



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