



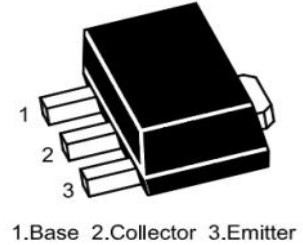
迈拓电子
MAITUO ELECTRONIC

2SB649 Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

FEATURES

Low Frequency Power Amplifier Complementary Pair
with 2SD669 / 2SD669A



SOT-89-3L

Marking Code:B649/B649A

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	2SB649	-120	V
		2SB649A	-160	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current -Continuous		-1.5	A
P_C	Collector Dissipation		1	W
T_J	Junction Temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-55-150	$^{\circ}\text{C}$



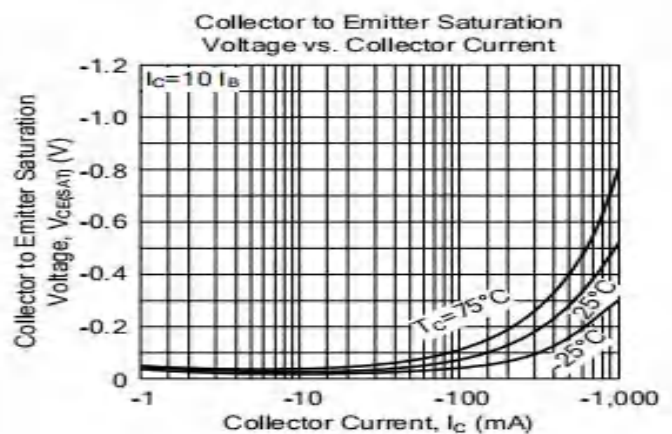
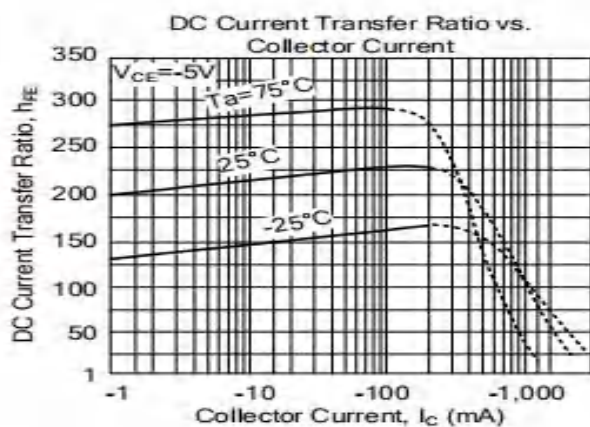
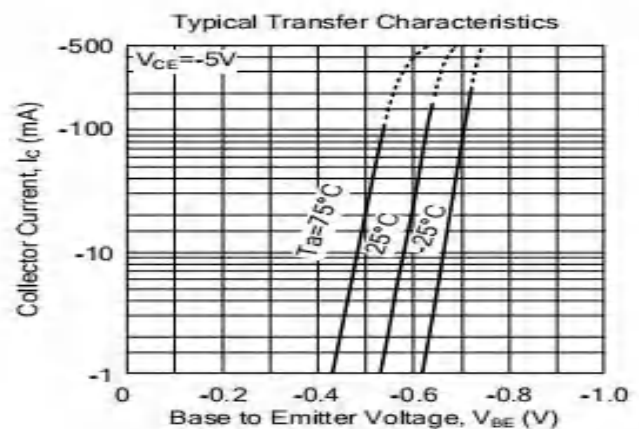
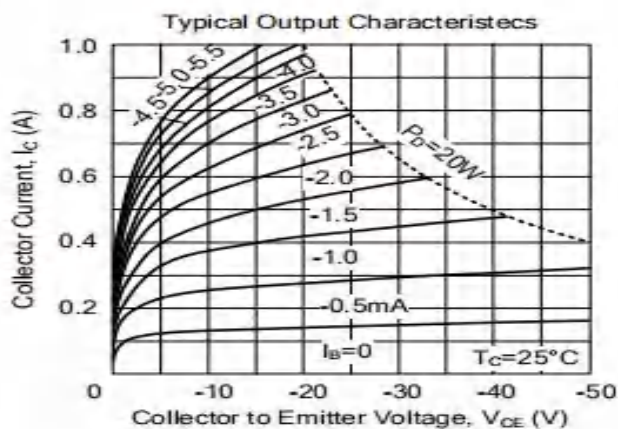
$T_a=25^{\circ}\text{C}$ unless otherwise specified

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	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	2SB649	-120		V
			2SB649A	-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	$h_{FE(1)}$	$V_{CE}=-5\text{V}, I_C=-150\text{mA}$	2SB649	60	320	
			2SB649A	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}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		27		pF

CLASSIFICATION OF $h_{FE(1)}$

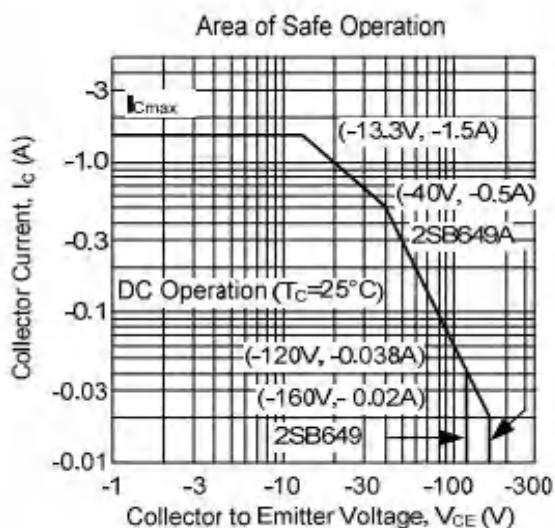
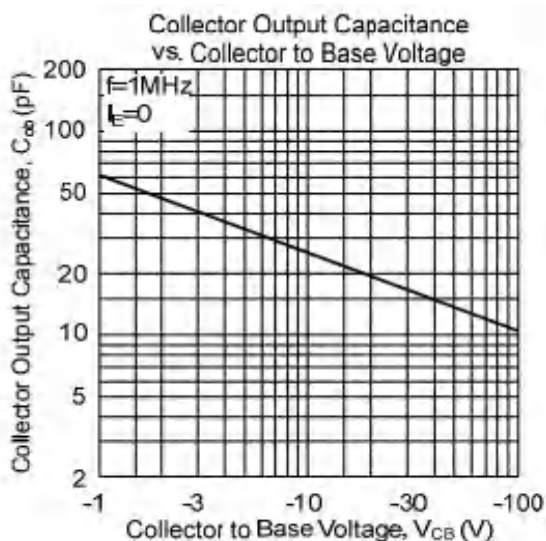
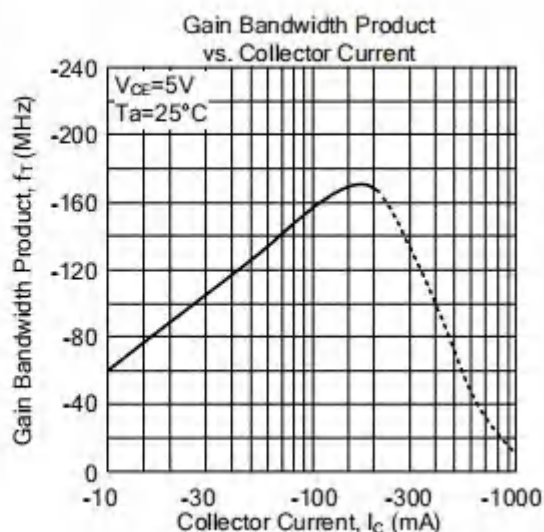
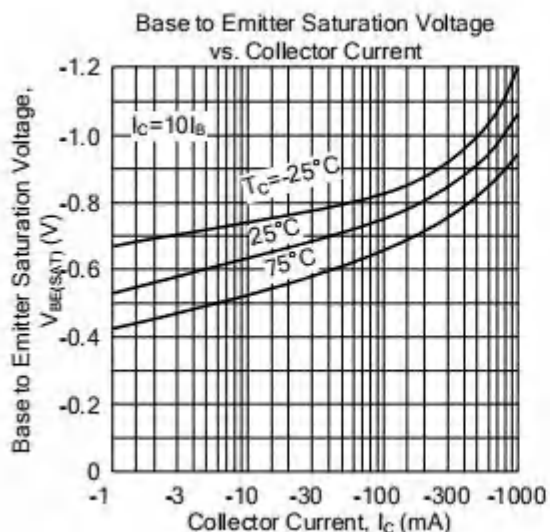
Rank		B	C	D
Range	2SB649	60-120	100-200	160-320
	2SB649A	60-120	100-200	

■ TYPICAL CHARACTERISTICS



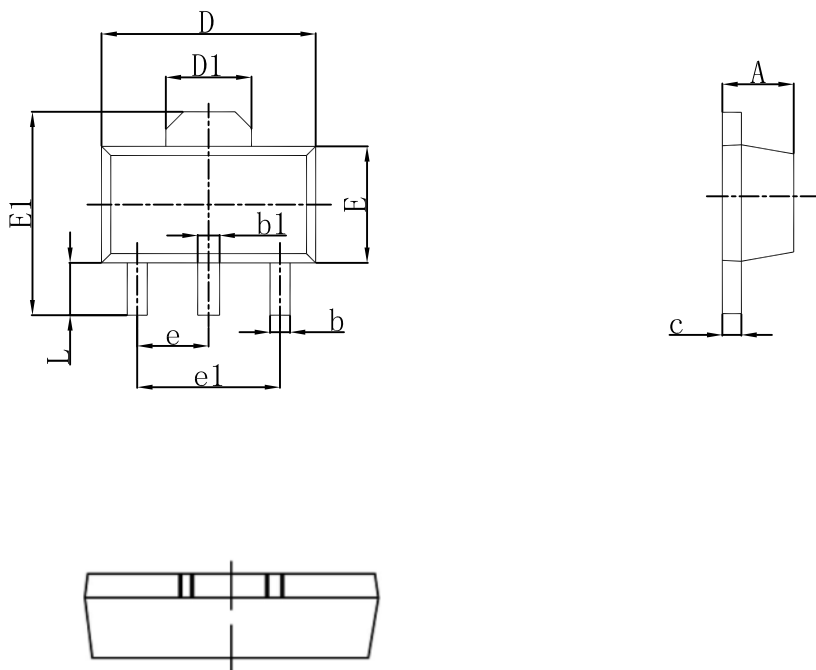


■ TYPICAL CHARACTERISTICS(Cont.)





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