

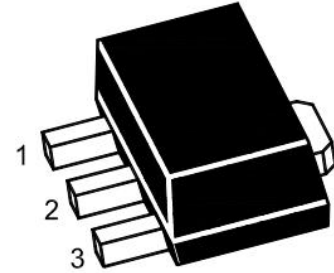
SOT-89 Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

FEATURES

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

Marking Code: B649/B649A



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

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	2SB649	-120
		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	°C
T _{stg}	Storage Temperature	-55-150	°C

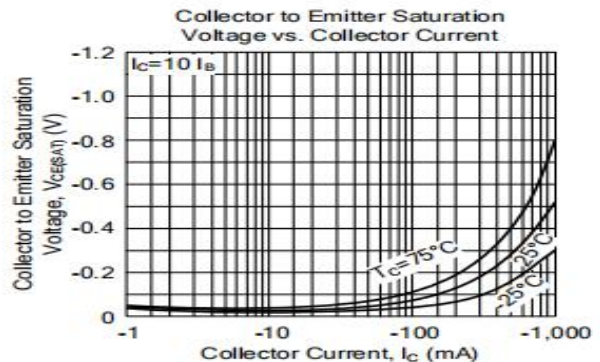
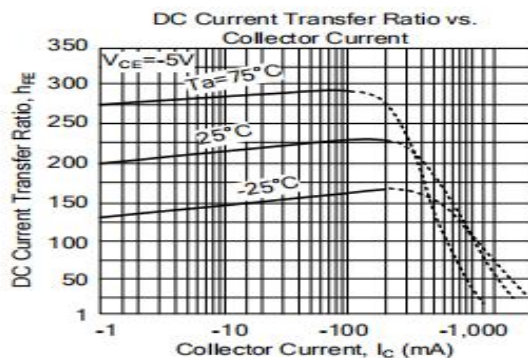
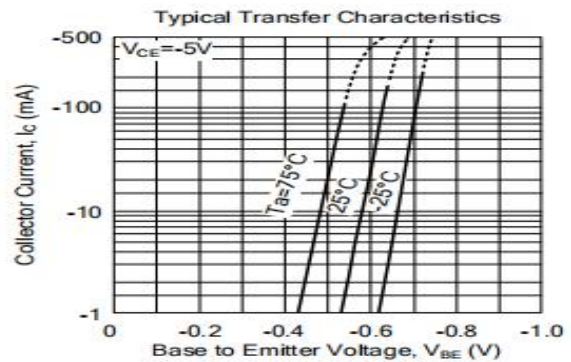
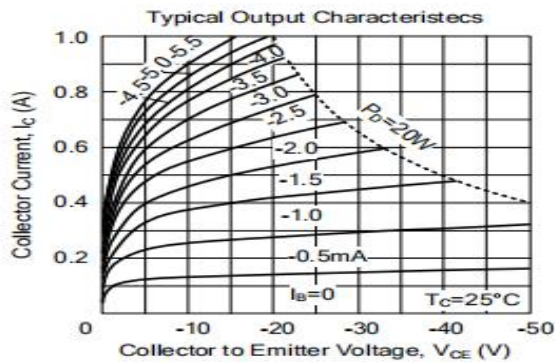
$T_a=25^\circ\text{C}$ unless otherwise specified

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	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	2SB649	-120		V
			2SB649A	-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}	$V_{CB} = -160\text{V}, I_E = 0$			-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	
	$h_{FE(2)}$	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$	2SB649A	60	200	
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.)

