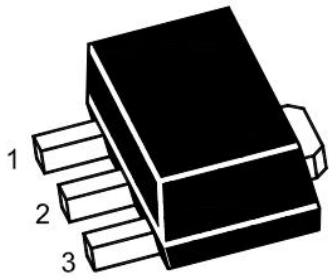
SOT-89 Plastic-Encapsulate Transistors

TRANSISTOR (PNP)



1.Base 2.Collector 3.Emitter

SOT-89 Plastic Package

FEATURES

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

Marking Code:B649/B649A

MAXIMUM RATINGS (T_a=25℃ 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	℃
T_{stg}	Storage Temperature		-55-150	℃

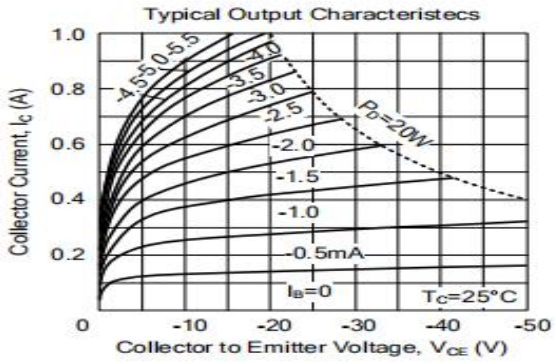
T_a=25℃ unless otherwise specified

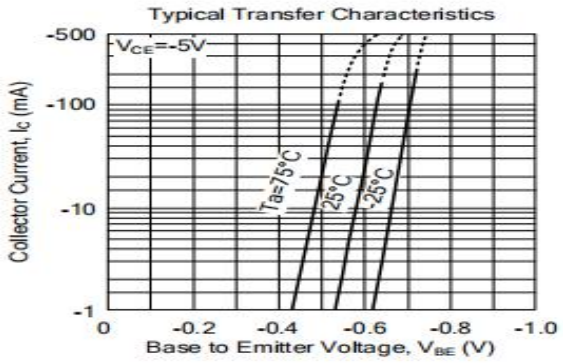
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C =-1mA,I_E=0		-180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	2SB649	-120			V
			2SB649A	-160			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-1mA, I_C =0		-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-160V,I_E=0				-10	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V,I_C=0				-10	μA
DC current gain	$h_{FE(1)}$	V_{CE}=-5V,I_C=-150mA	2SB649	60		320	
			2SB649A	60		200	
	$h_{FE(2)}$	V_{CE}=-5V,I_C=-500mA		30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA,I_B=-50mA				-1	V
Base-emitter voltage	V_{BE}	V_{CE}=-5V,I_C=-150mA				-1.5	V
Transition frequency	f_T	V_{CE}=-5V,I_C=-150mA			140		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz			27		pF

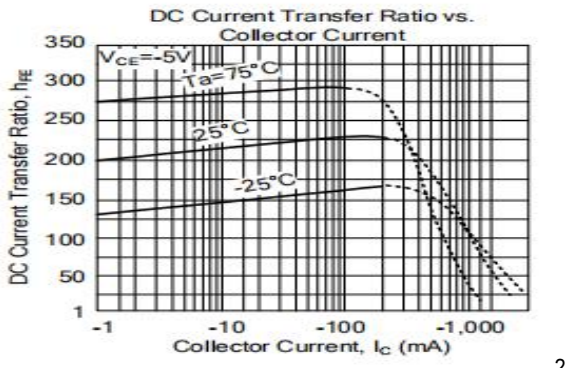
CLASSIFICATION OF $h_{FE(1)}$

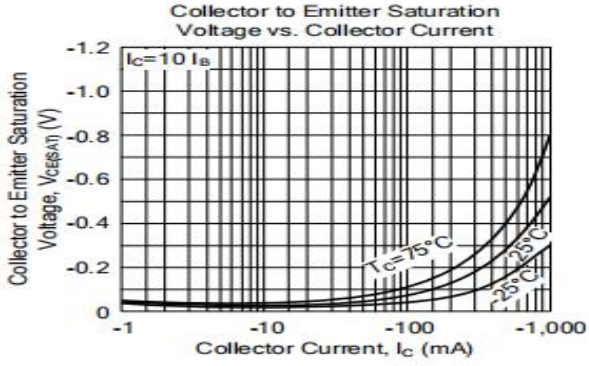
Rank		B	C	D
Range	2SB649	60-120	100-200	160-320
	2SB649A	60-120	100-200	

■ TYPICAL CHARACTERISTICS









■ TYPICAL CHARACTERISTICS(Cont.)