



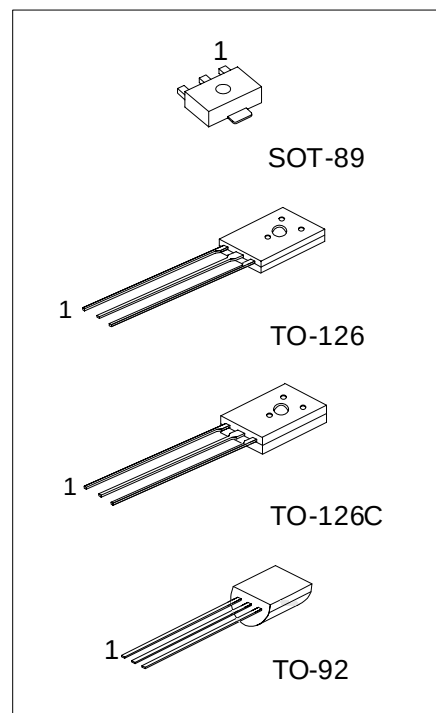
2SB649/A

PNP SILICON TRANSISTOR

BIPOLAR POWER GENERAL PURPOSE TRANSISTOR

APPLICATIONS

* Low frequency power amplifier complementary pair with UTC 2SB669/A



*Pb-free plating product number:
2SB649L/2SB649AL

ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SB649-x-AB3-R	2SB649L-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SB649-x-T6C-K	2SB649L-x-T6C-K	TO-126C	E	C	B	Bulk
2SB649-x-T60-K	2SB649L-x-T60-K	TO-126	E	C	B	Bulk
2SB649-x-T92-B	2SB649L-x-T92-B	TO-92	E	C	B	Tape Box
2SB649-x-T92-K	2SB649L-x-T92-K	TO-92	E	C	B	Bulk
2SB649A-x-AB3-R	2SB649AL-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SB649A-x-T6C-K	2SB649AL-x-T6C-K	TO-126C	E	C	B	Bulk
2SB649A-x-T60-K	2SB649AL-x-T60-K	TO-126	E	C	B	Bulk
2SB649A-x-T92-B	2SB649AL-x-T92-B	TO-92	E	C	B	Tape Box
2SB649A-x-T92-K	2SB649AL-x-T92-K	TO-92	E	C	B	Bulk

	(1)Packing Type
	(2)Package Type
	(3)Rank
	(4)Lead Plating
(1) B: Tape Box, K: Bulk, R: Tape Reel	
(2) AB3: SOT-89, T6C: TO-126C, T60: TO-126, T92: TO-92	
(3) x: refer to Classification of h_{FE}	
(4) L: Lead Free Plating, Blank: Pb/Sn	

■ ABSOLUTE MAXIMUM RATING (Ta=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	-180	V
Collector-Emitter Voltage	2SB649	V_{CEO}	-120	V
	2SB649A		-160	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-1.5	A
Collector Peak Current		$I_{C(PEAK)}$	-3	A
Collector Power Dissipation	TO-126/TO-126C	P_D	1.4	W
	TO-92		1	W
	SOT-89		500	mW
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

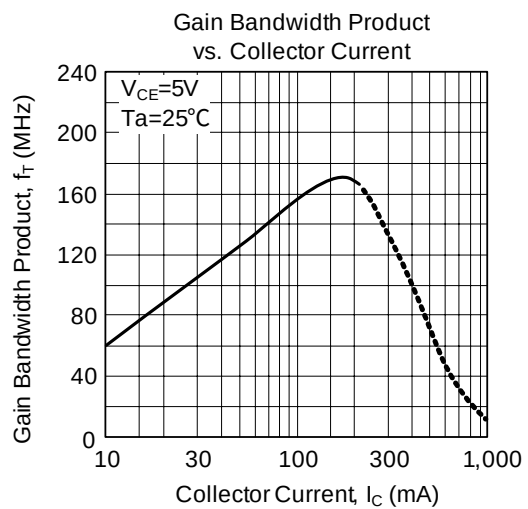
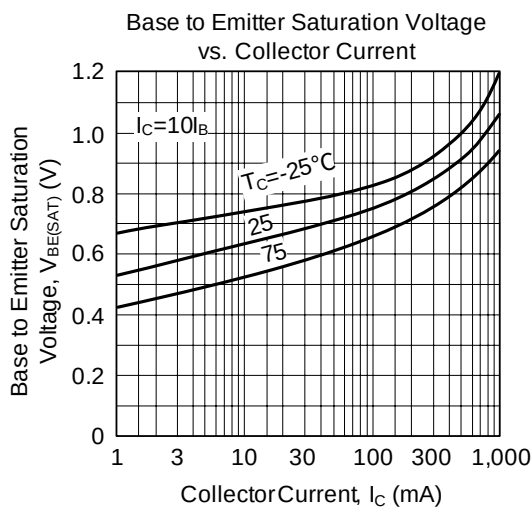
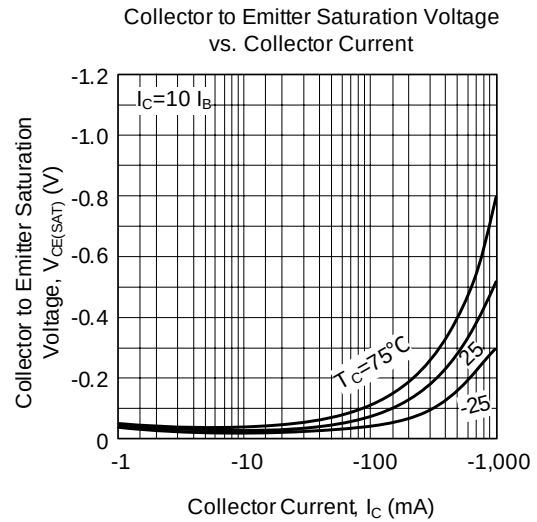
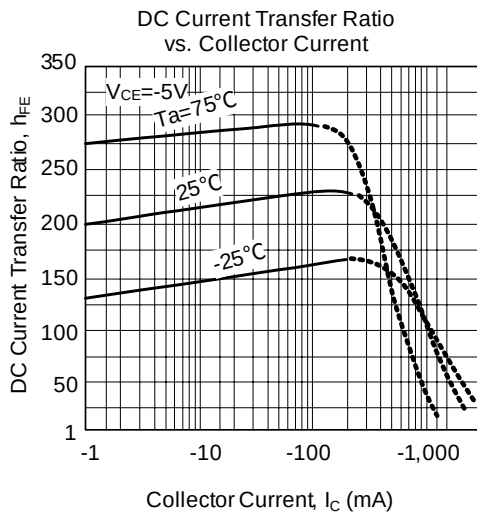
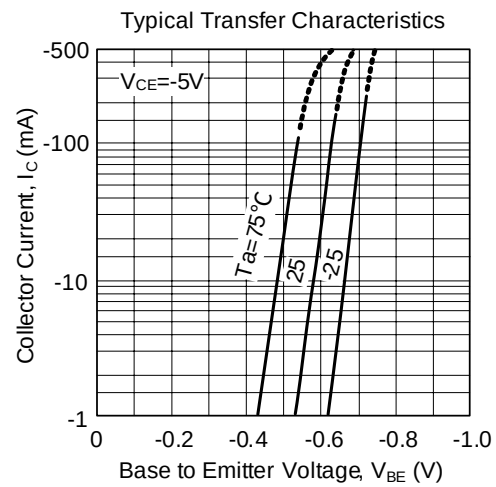
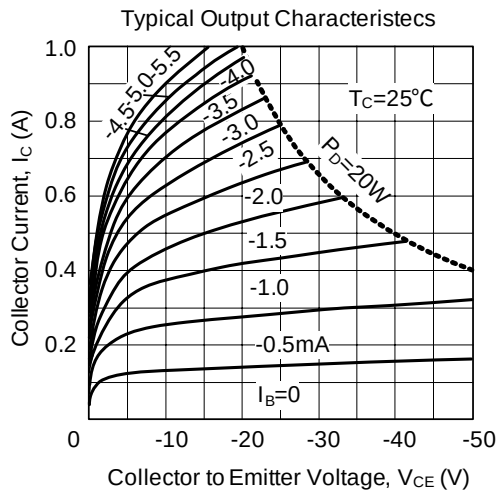
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Base Breakdown Voltage		BV _{CBO}	I _C =-1mA, I _E =0	-180			V
Collector to Emitter Breakdown Voltage	2SB649	BV _{CEO}	I _C =-10mA, R _{BE} =∞	-120			V
	2SB649A			-160			
Emitter to Base Breakdown Voltage		BV _{EBO}	I _E =-1mA, I _C =0	-5			V
Collector Cut-off Current		I _{CBO}	V _{CB} =-160V, I _E =0			-10	μA
DC Current Gain	2SB649	h _{FE1}	V _{CE} =-5V, I _C =-150mA (note)	60		320	
		h _{FE2}	V _{CE} =-5V, I _C =-500mA (note)	30			
	2SB649A	h _{FE1}	V _{CE} =-5V, I _C =-150mA (note)	60		200	
		h _{FE2}	V _{CE} =-5V, I _C =-500mA (note)	30			
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	I _C =-600mA, I _B =-50mA			-1	V
Base-Emitter Voltage		V _{BE}	V _{CE} =-5V, I _C =-150mA			-1.5	V
Current Gain Bandwidth Product		f _T	V _{CE} =-5V, I _C =-150mA		140		MHz
Output Capacitance		C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz		27		pF

Note: Pulse test.

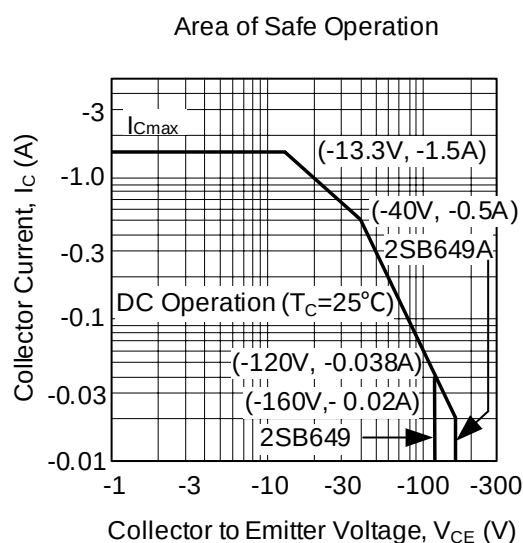
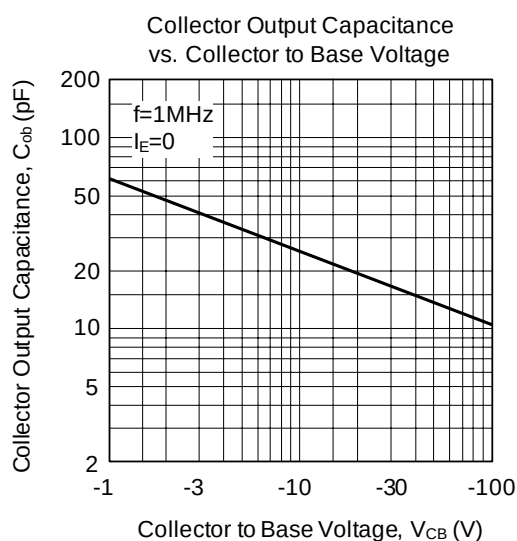
■ CLASSIFICATION OF h_{FE}

RANK	B	C	D
RANGE	60-120	100-200	160-320

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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