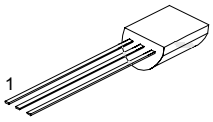
UTC 2SB649 /A PNP EPITAXIAL SILICON TRANSISTOR

BIPOLAR POWER GENERAL PURPOSE TRANSISTOR

APPLICATIONS

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



TO-92

1:EMITTER 2:COLLECTOR 3:BASE

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

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	V_{CBO}	-180	V
Collector-emitter voltage	V_{CEO}		V
2SB649		-120	
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	P_C	1	W
Collector power dissipation (T_C=25°C)	P_C	20	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to bse breakdown voltage	$V_{(BR)CBO}$	I_C=-1mA, I_E=0	-180			V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA, R_{BE}=∞				V
2SB649			-120			
2SB649A			-160			
Emitter to 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

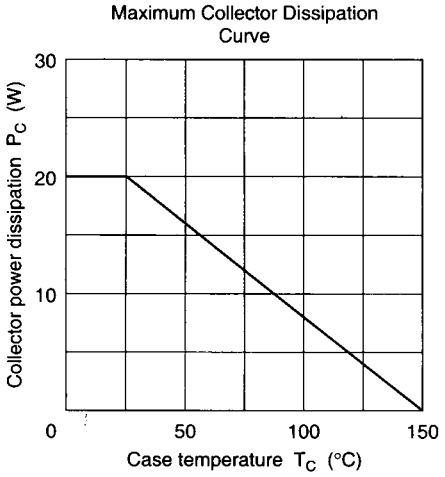
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC current gain	2SB649	h_{FE1}	V_{CE}=-5V, Ic=-150mA (note)	60		320	
		h_{FE2}	V_{CE}=-5V, Ic=-500mA (note)	30			
	2SB649A	h_{FE1}	V_{CE}=-5V, Ic=-150mA (note)	60		200	
		h_{FE2}	V_{CE}=-5V, Ic=-500mA (note)	30			
Collector-emitter saturation voltage		V_{CE}(sat)	Ic=-600mA, I_B=-50mA			-1	V
Base-emitter voltage		V_{BE}	V_{CE}=-5V, Ic=-150mA			-1.5	V
Current gain bandwidth product		f_T	V_{CE}=-5V,Ic=-150mA		140		MHz
Output capacitance		Cob	V_{CB}=-10V, I_E=0, f=1MHz		27		pF

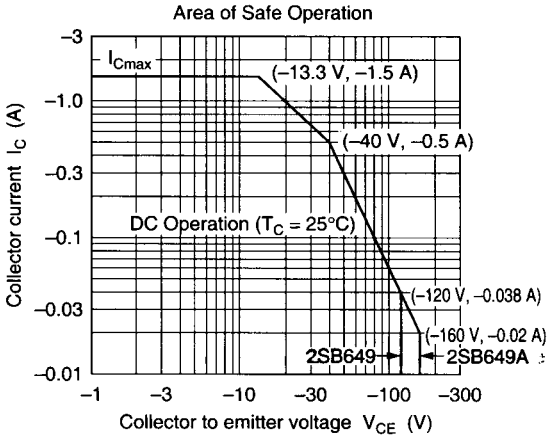
Note: Pulse test.

CLASSIFICATION OF h_{FE1}

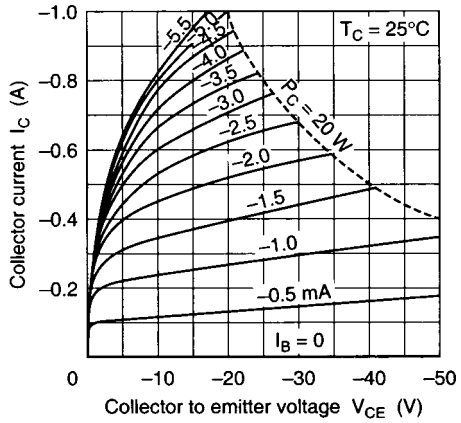
RANK	B	C	D
RANGE	60-120	100-200	160-320

TYPICAL PARAMETERS PERFORMANCE

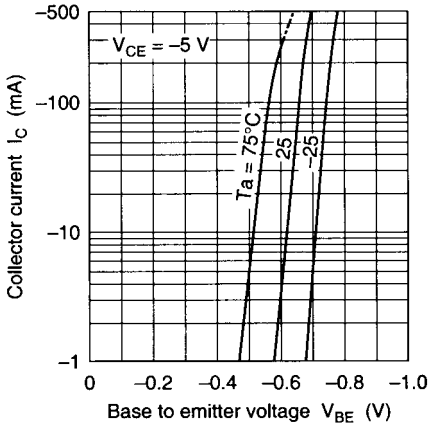




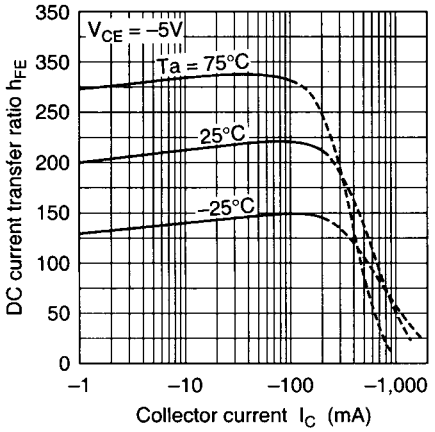
Typical Output Characteristics



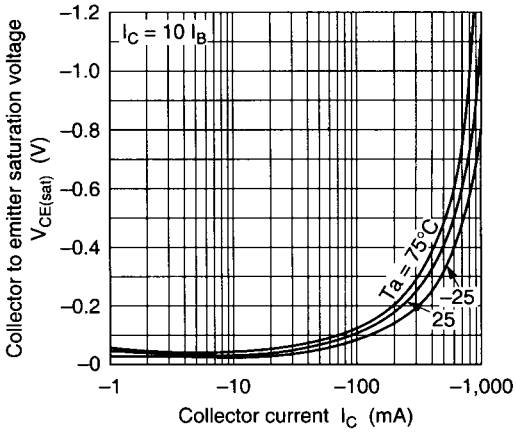
Typical Transfer Characteristics



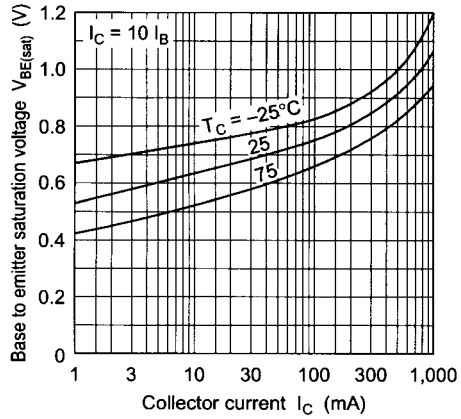
DC Current Transfer Ratio vs. Collector Current



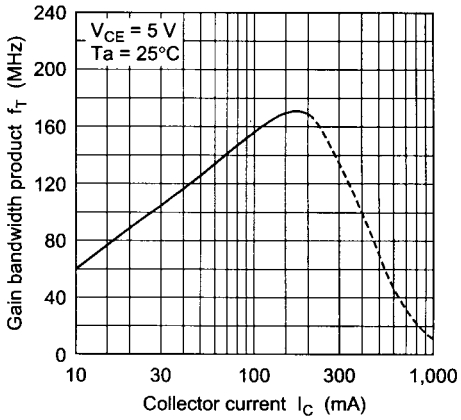
Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage