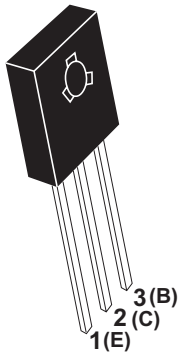


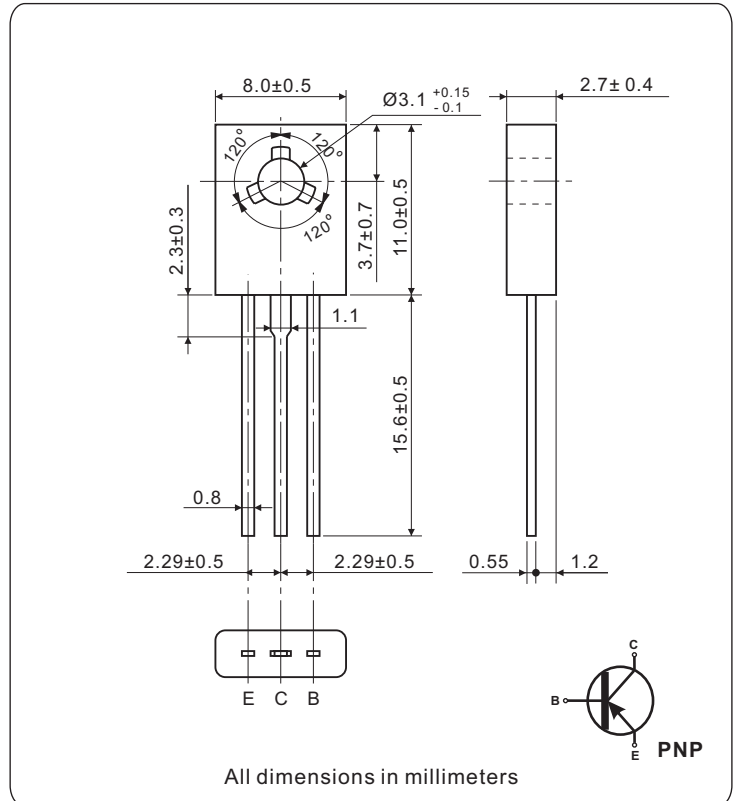
## Bipolar General Purpose PNP Power Transistor -1.5A / -120V, -160V / 20W



TO-126

### APPLICATIONS

- Low frequency power amplifier complementary pair with 2SD669AM/2SD669AM-A



ABSOLUTE MAXIMUM RATINGS (T <sub>a</sub> = 25°C)				
SYMBOL	PARAMETER	VALUE		UNIT
		2SB649AM	2SB649AM-A	
V <sub>CBO</sub>	Collector to base voltage	-180	-180	V
V <sub>CEO</sub>	Collector to emitter voltage	-120	-160	
V <sub>EBO</sub>	Emitter to base voltage	-5		
I <sub>C(peak)</sub>	Peak collector current	-3		A
I <sub>C</sub>	Collector current	-1.5		
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> = 25°C	20	W
		T <sub>A</sub> = 25°C	1	
T <sub>j</sub>	Junction temperature	150		°C
T <sub>stg</sub>	Storage temperature	-55 to 150		

ELECTRICAL CHARACTERISTICS (T <sub>a</sub> = 25°C)						
SYMBOL	PARAMETER	CONDITIONS	min	typ	max	UNIT
V <sub>(BR)CBO</sub>	Collector to base breakdown voltage	I <sub>C</sub> = -1mA, I <sub>E</sub> = 0	-180			V
V <sub>(BR)CEO</sub>	Collector to emitter breakdown voltage	I <sub>C</sub> = -10mA, R <sub>BE</sub> = ∞	2SB649AM	-120		
			2SB649AM-A	-160		
V <sub>(BR)EBO</sub>	Emitter to base breakdown voltage	I <sub>E</sub> = -1mA, I <sub>C</sub> = 0	-5			
I <sub>CBO</sub>	Collector cutoff current	V <sub>CB</sub> = -160V, I <sub>E</sub> = 0			-10	μA
h <sub>FE1</sub>	DC current transfer ratio (Note1)	V <sub>CE</sub> = -5V, I <sub>C</sub> = -150 mA	2SB649AM	60		320
			2SB649AM-A	60		200
h <sub>FE2</sub>		V <sub>CE</sub> = -5V, I <sub>C</sub> = -500 mA	30			
V <sub>CE(sat)</sub>	Collector to emitter saturation voltage	I <sub>C</sub> = -0.5A, I <sub>B</sub> = -50mA			-1.0	V
V <sub>BE</sub>	Base to emitter voltage	V <sub>CE</sub> = -5V, I <sub>C</sub> = -150mA			-1.5	
f <sub>T</sub>	Transition frequency (gain bandwidth product)	V <sub>CE</sub> = -5V, I <sub>C</sub> = -150 mA		140		MHz
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f <sub>test</sub> = 1MHz		27		pF

Note: 1. Pulse test.

CLASSIFICATION OF h <sub>FE1</sub>			
RANK	B	C	D
2SD669AM	60 to 120	100 to 200	160 to 320
2SD669AM-A	60 to 120	100 to 200	—

Fig.1 Maximum collector dissipation curve

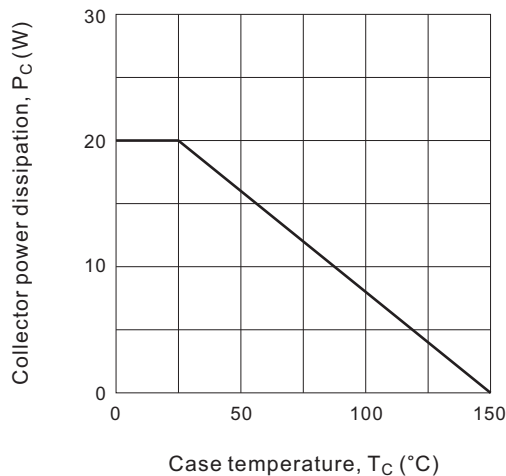
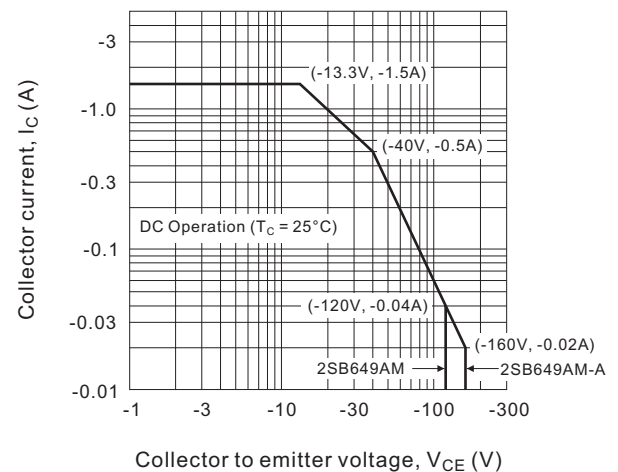
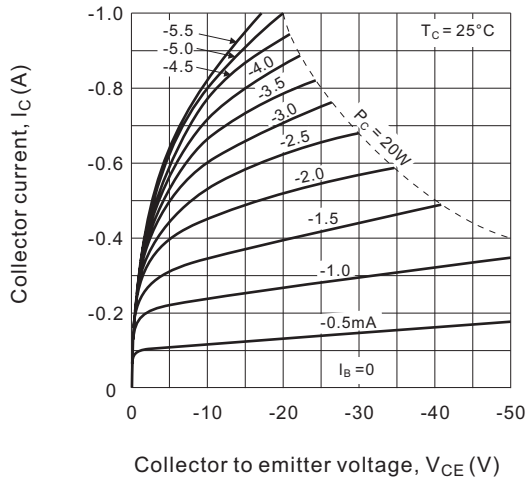


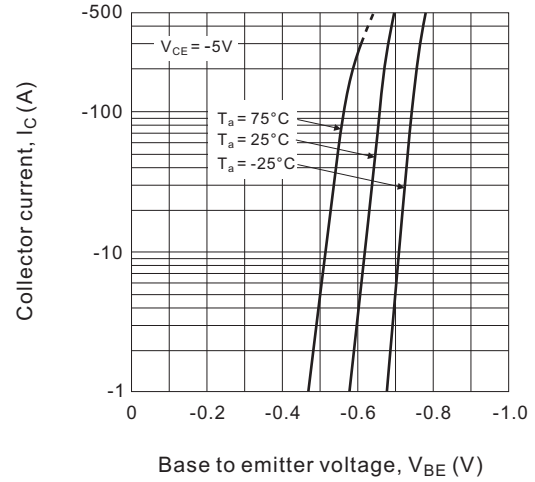
Fig.2 Area of safe operation



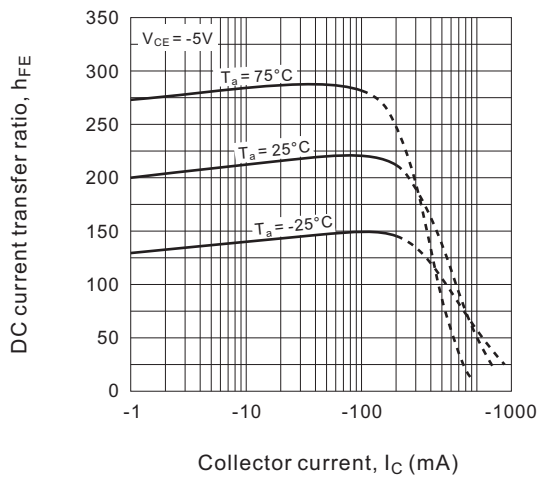
**Fig.3 Typical output characteristics**



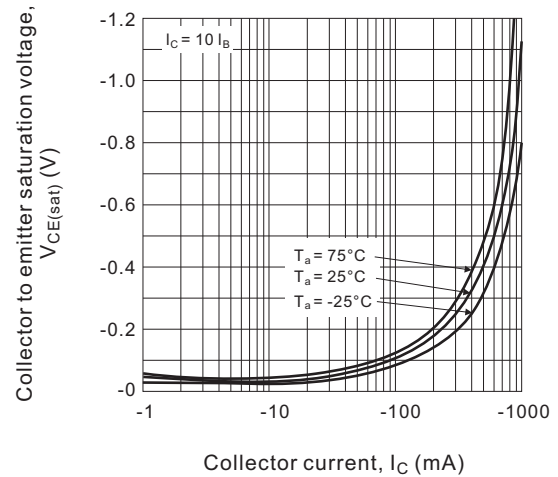
**Fig.4 Typical transfer characteristics**



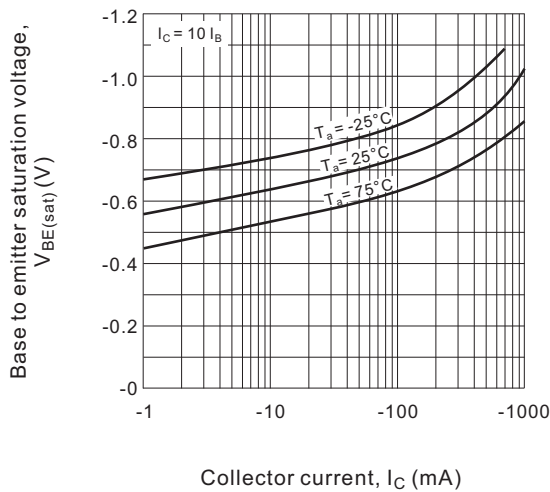
**Fig.5 DC current transfer ratio vs. collector current**



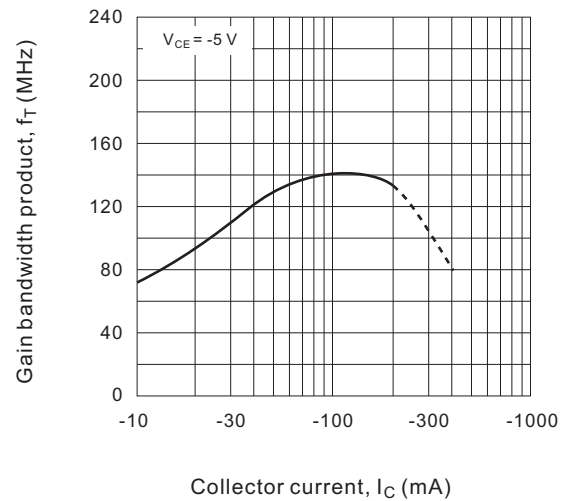
**Fig.6 Collector to emitter saturation voltage vs. collector current**



**Fig.7 Base to emitter saturation voltage vs. collector current**



**Fig.8 Gain bandwidth product vs. collector current**



**Fig.9 Collector output capacitance vs. collector to base voltage**

