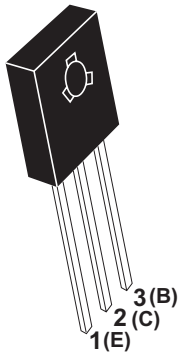


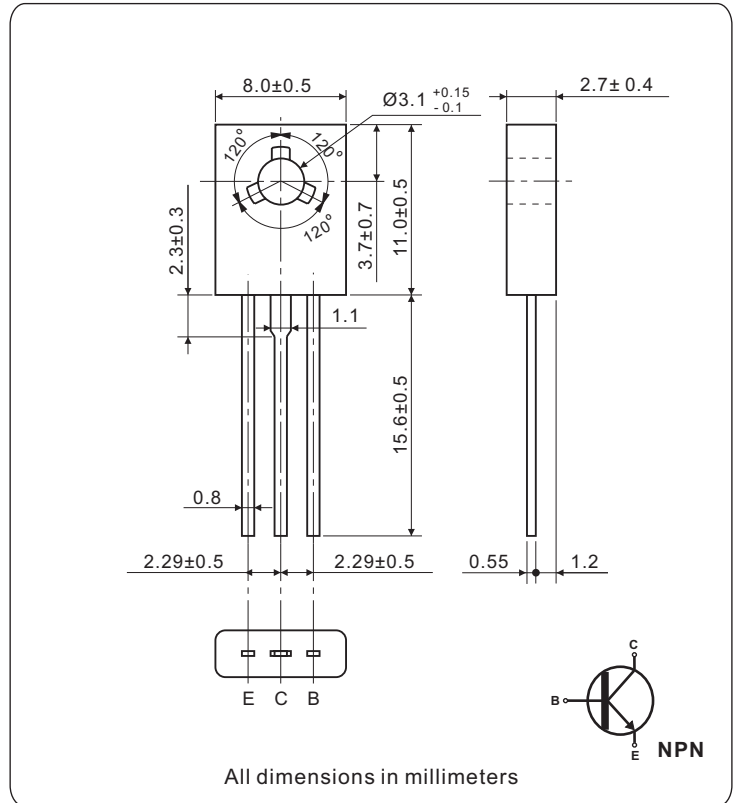
Bipolar General Purpose NPN Power Transistor 1.5A / 120V, 160V / 20W



TO-126

APPLICATIONS

- Low frequency power amplifier complementary pair with 2SB649AM/2SB649AM-A



ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)				
SYMBOL	PARAMETER	VALUE		UNIT
		2SD669AM	2SD669AM-A	
V_{CBO}	Collector to base voltage	180	180	V
V_{CEO}	Collector to emitter voltage	120	160	
V_{EBO}	Emitter to base voltage	5		
$I_{C(\text{peak})}$	Peak collector current	3		A
I_C	Collector current	1.5		
P_C	Collector power dissipation	$T_C = 25^\circ\text{C}$	20	W
		$T_A = 25^\circ\text{C}$	1	
T_j	Junction temperature	150		$^\circ\text{C}$
T_{stg}	Storage temperature	-55 to 150		

ELECTRICAL CHARACTERISTICS (T _a = 25°C)						
SYMBOL	PARAMETER	CONDITIONS	min	typ	max	UNIT
V _{(BR)CBO}	Collector to base breakdown voltage	I _C = 1mA, I _E = 0	180			V
V _{(BR)CEO}	Collector to emitter breakdown voltage	I _C = 10mA, R _{BE} = ∞	2SD669AM	120		
			2SD669AM-A	160		
V _{(BR)EBO}	Emitter to base breakdown voltage	I _E = 1mA, I _C = 0	5			
I _{CBO}	Collector cutoff current	V _{CB} = 160V, I _E = 0			10	μA
h _{FE1}	DC current transfer ratio (Note1)	V _{CE} = 5V, I _C = 150 mA	2SD669AM	60		320
			2SD669AM-A	60		200
h _{FE2}		V _{CE} = 5V, I _C = 500 mA	30			
V _{CE(sat)}	Collector to emitter saturation voltage	I _C = 0.5A, I _B = 50mA			1.0	V
V _{BE}	Base to emitter voltage	V _{CE} = 5V, I _C = 150mA			1.5	
f _T	Transition frequency (gain bandwidth product)	V _{CE} = 5V, I _C = 150 mA		140		MHz
C _{ob}	Collector output capacitance	V _{CB} = 10V, I _E = 0, f _{test} = 1MHz		14		pF

Note: 1. Pulse test.

CLASSIFICATION OF h _{FE1}			
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

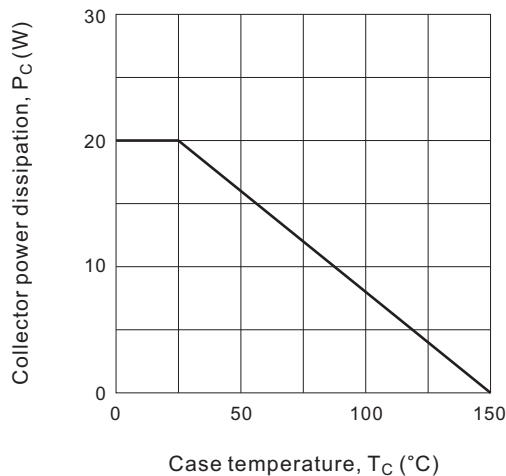


Fig.2 Area of safe operation

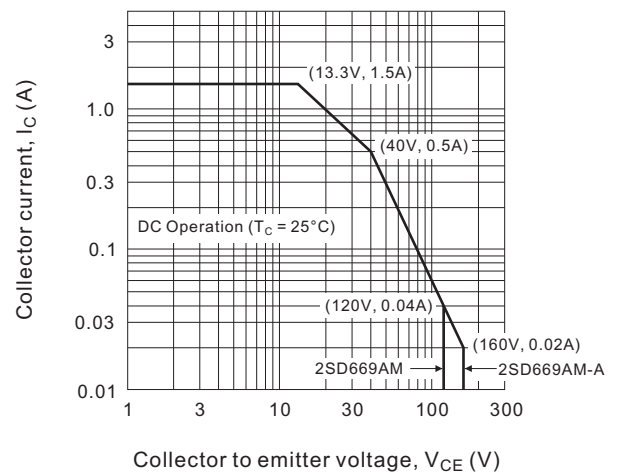


Fig.3 Typical output characteristics

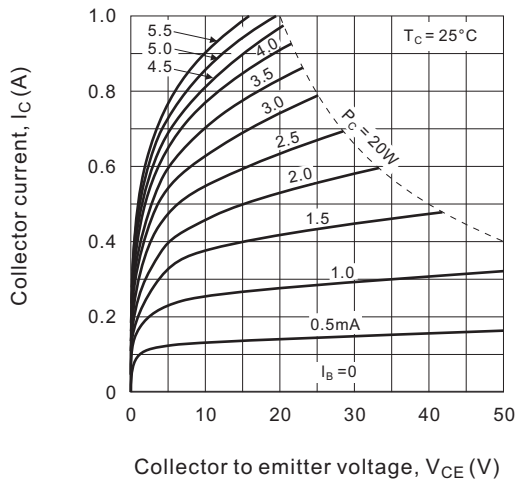


Fig.4 Typical transfer characteristics

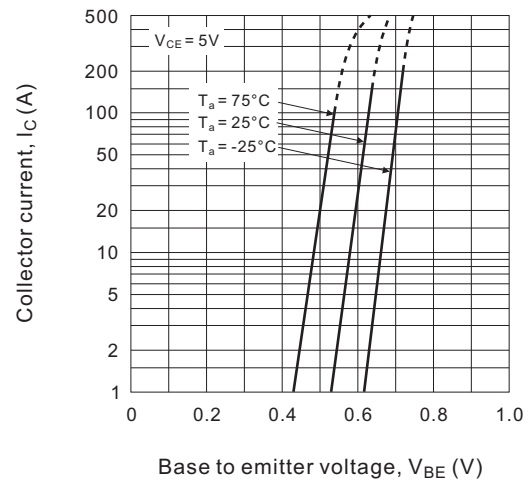


Fig.5 DC current transfer ratio vs. collector current

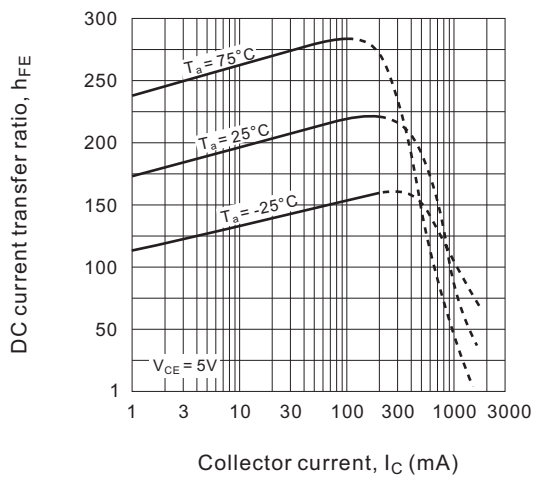


Fig.6 Collector to emitter saturation voltage vs. collector current

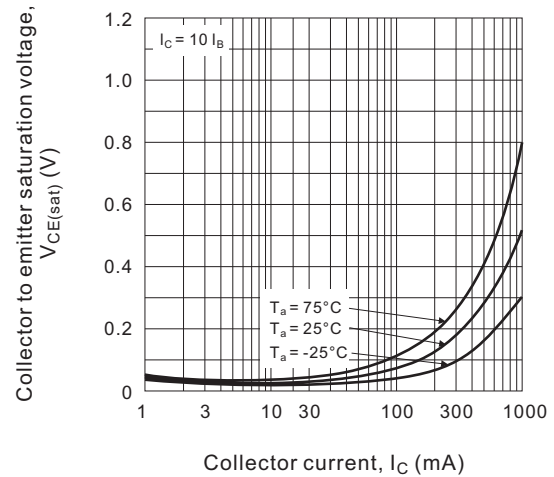


Fig.7 Base to emitter saturation voltage vs. collector current

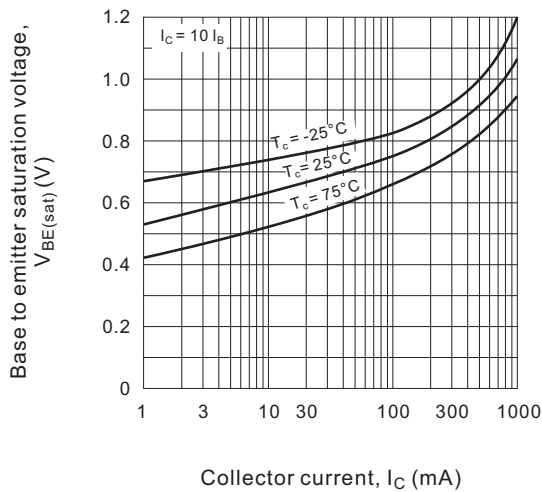


Fig.8 Gain bandwidth product vs. collector current

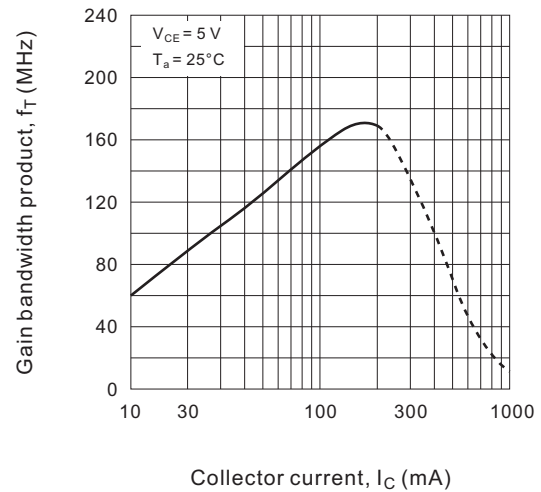


Fig.9 Collector output capacitance vs. collector to base voltage

