

<Transistor>

2SA1998

For Low Frequency Power Amplify Application
Silicon PNP Epitaxial Type Micro(Frame type)

DESCRIPTION

2SA1998 is a silicon PNP epitaxial type transistor designed for small type motor drive, solenoid drive and power supply application.

FEATURE

- High collector current
 $I_C = -2A$
- Low collector saturation voltage
 $V_{CE(sat)} = -0.17V$ typ (@ $I_C = -1A, I_B = -50mA$)
- High $h_{FE} = 150$ to 800
- High collector dissipation
 $P_C = 600mW$

APPLICATION

VCR, deck, small type motor drive for player, power supply, etc

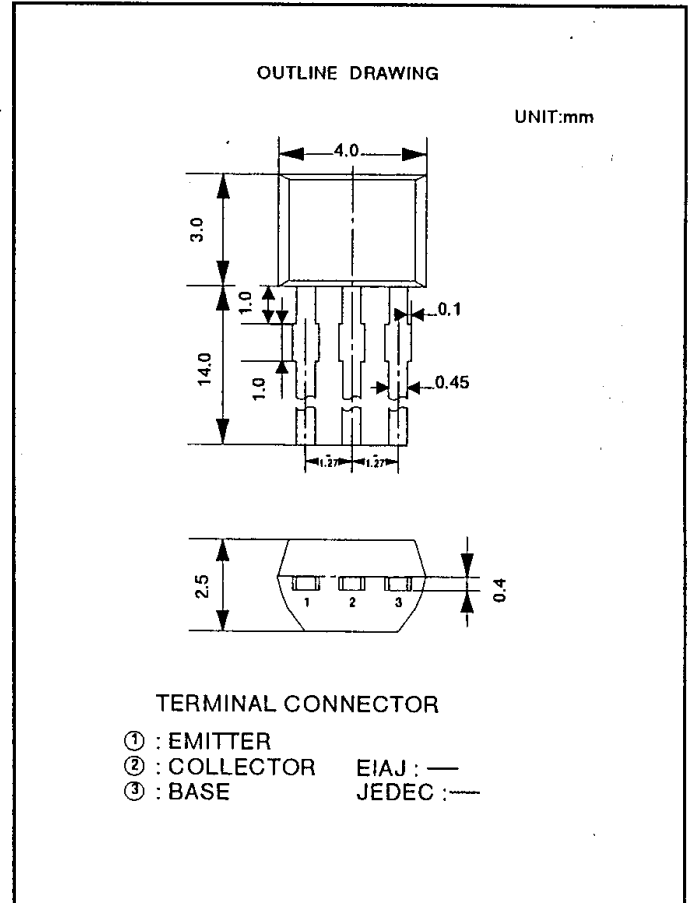
MAXIMUM RATINGS (Ta=25°C)

SYMBOL	PARAMETER	RATINGS	UNIT
V _{CB0}	Collector to Base voltage	-20	V
V _{EB0}	Emitter to base voltage	-6	V
V _{CE0}	Collector to Emitter voltage	-20	V
I _{CM}	Peak collector current	-3	A
I _C	Collector current	-2	A
P _C	Collector to Base voltage	600	mW
T _j	Junction temperature	+150	°C
T _{stg}	Storage temperature	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
V _{(BR)CBO}	C to B break down voltage	I _C = -10μA, I _E = 0	-20			V
V _{(BR)EBO}	E to B break down voltage	I _E = -10μA, I _C = 0	-6			V
V _{(BR)CEO}	C to E break down voltage	I _C = -2mA, R _{BE} = ∞	-20			V
I _{CBO}	Collector cut off current	V _{CB} = -16V, I _E = 0			-0.2	μA
I _{EBO}	Emitter cut off current	V _{EB} = -4V, I _C = 0			-0.2	μA
h _{FE} *	DC forward current gain	V _{CE} = -4V, I _C = -100mA	150		500	—
V _{CE(sat)}	C to E saturation voltage	I _C = -1A, I _B = -50mA		-0.17	-0.3	V
f _T	Gain band width product	V _{CE} = -2V, I _E = 10mA		80		MHz
C _{ob}	Collector output capacitance	V _{CB} = -10V, I _E = 0, f = 1MHz		42		pF

ITEM	E	F
h _{FE}	150~300	250~500



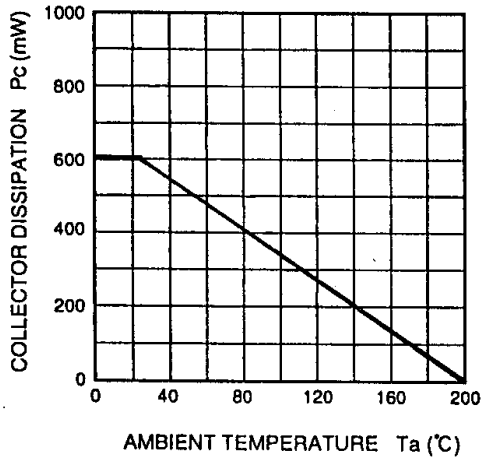
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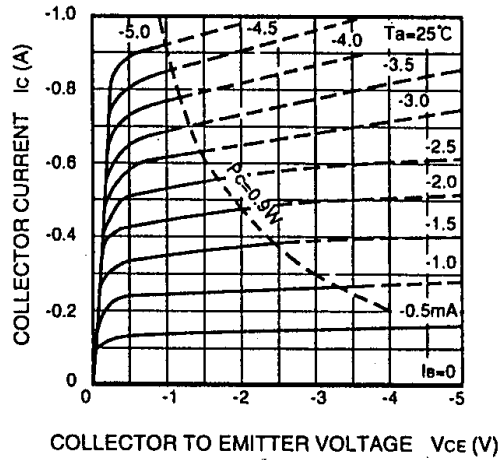
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TYPICAL CHARACTERISTICS

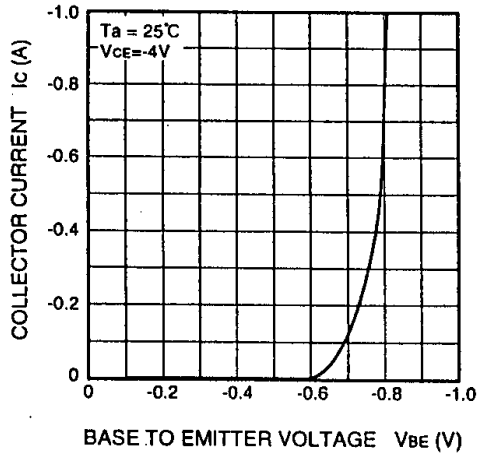
COLLECTOR DISSIPATION VS.
AMBIENT TEMPERATURE



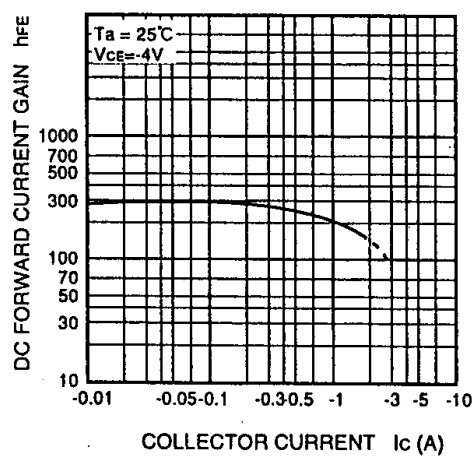
COMMON EMITTER OUTPUT VS.
COLLECTOR TO EMITTER VOLTAGE



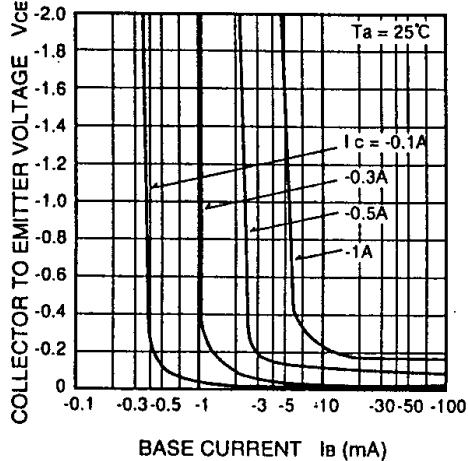
COMMON EMITTER TRANSFER



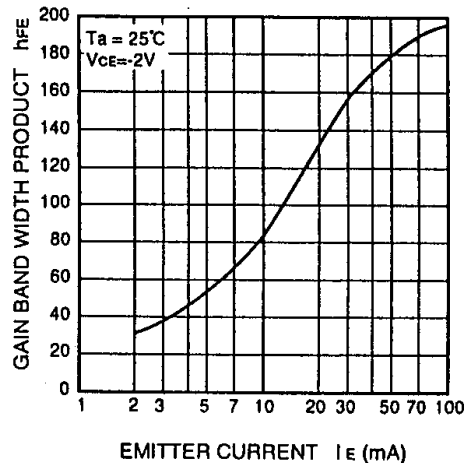
DC FORWARD CURRENT GAIN VS.
COLLECTOR CURRENT



COLLECTOR TO EMITTER
SATURATION VOLTAGE VS.
BASE CURRENT



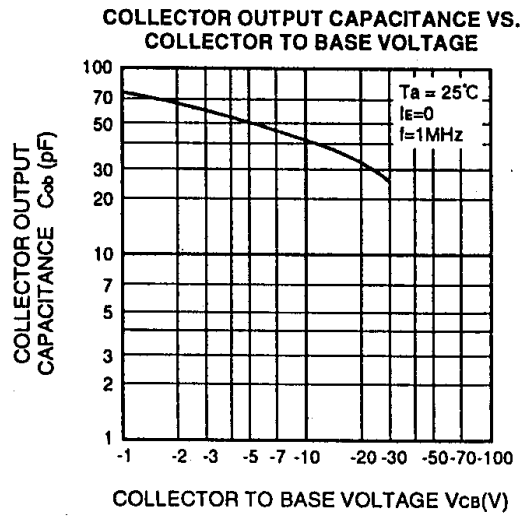
GAIN BAND WIDTH PRODUCT VS.
EMITTER CURRENT



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