〈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

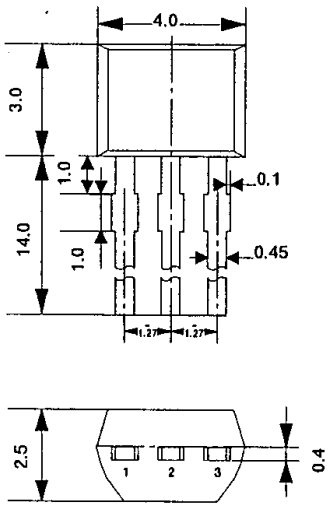
- High collector current
  I_C=-2A
- Low collector saturation voltage
  $V_{CE(sat)}$=-0.17V typ (@ I_C=-1A,I_B=-50mA)
- High h_{FE}=150 to 800
- High collector dissipation
  P_C= 600mW

APPLICATION

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

OUTLINE DRAWING

UNIT:mm



TERMINAL CONNECTOR

① : EMITTER
② : COLLECTOR
③ : BASE

EIAJ : —
JEDEC :—

MAXIMUM RATINGS (Ta=25℃)

SYMBOL	PARAMETER	RATINGS	UNIT
V_{CBO}	Collector to Base voltage	-20	V
V_{EBO}	Emitter to ase voltage	-6	V
V_{CEO}	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	℃
T_{stg}	Storage temperature	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

SYMBOL	PARAMETER	TESTCONDITIONS	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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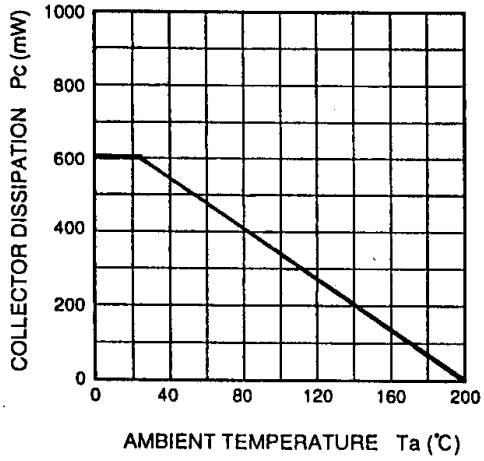
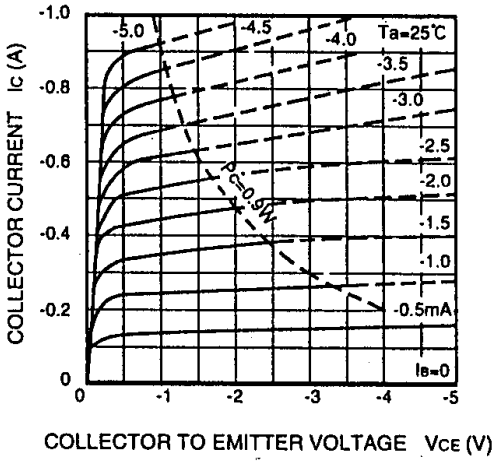
TYPICAL CHARACTERISTICS

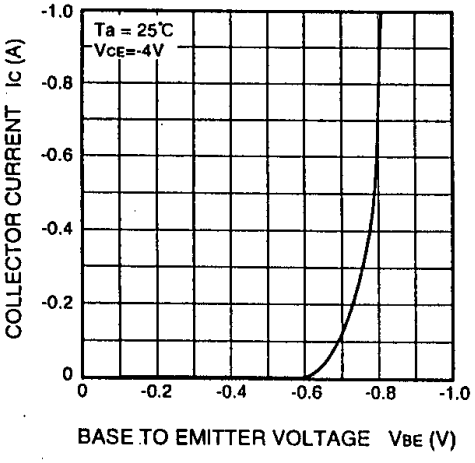
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



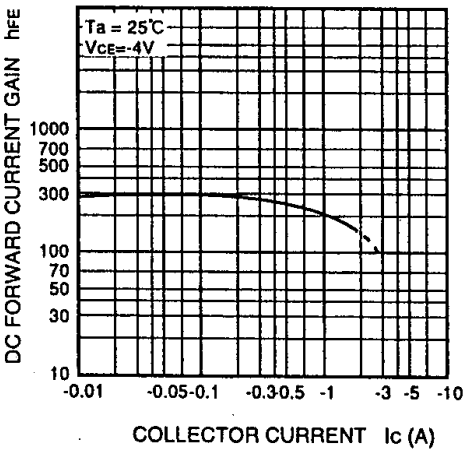
COMMON EMITTER OUTPUT VS. COLLECTOR TO EMITTER VOLTAGE



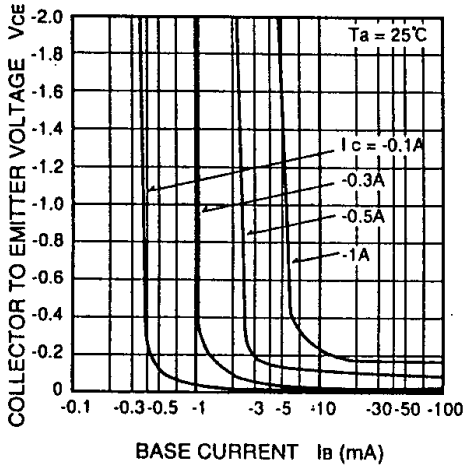
COMMON EMITTER TRANSFER



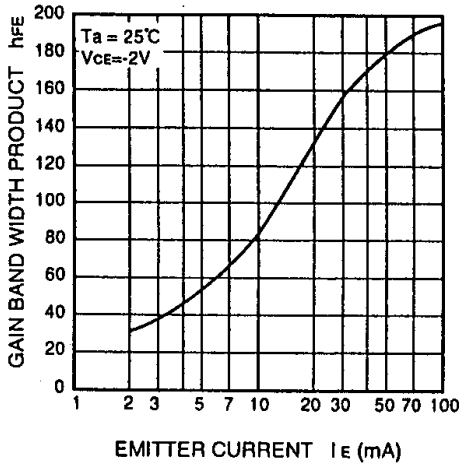
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



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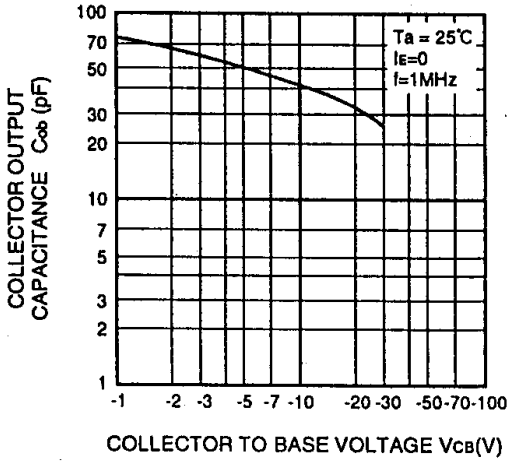
COLLECTOR OUTPUT CAPACITANCE VS.
COLLECTOR TO BASE VOLTAGE



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