〈Transistor〉

2SA2002

For High Current Application
Silicon PNP Epitaxial Type Micro(Frame type)

DESCRIPTION

2SA2002 is a silicon PNP epitaxial type transistor designed with high collector current ,small $V_{CE(sat)}$.

FEATURE

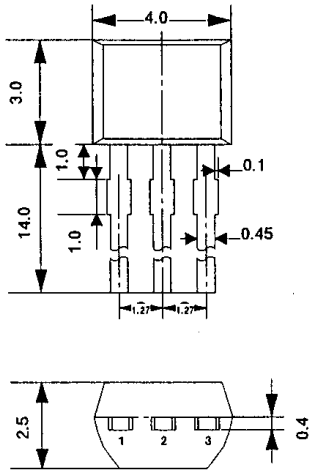
- High collector current
  I_{CM}=-1000mA
- Low collector to emitter saturation voltage
  $V_{CE(sat)}$=-0.25V typ
- Excellent linearity of DC forward current gain
- High gain band width product
  f_T= 180MHz typ
- High collector dissipation
  P_C= 600mW

APPLICATION

Small type motor drive, relay drive, power supply application.

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	-25	V
V_{EBO}	Emitter to Base voltage	-4	V
V_{CEO}	Collector to Emitter voltage	-20	V
I_{CM}	Peak collector current	-1000	mA
I_C	Collector current	-700	mA
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	-25			V
$V_{(BR)EBO}$	E to B break down voltage	I_E=-10μA, I_C=0	-4			V
$V_{(BR)CEO}$	C to E break down voltage	I_C=-100μA, R_{BE}=∞	-20			V
I_{CBO}	Collector cut off current	V_{CB}=-25V, I_E=0			-1	μA
I_{EBO}	Emitter cut off current	V_{EB}=-2V, I_C=0			-1	μA
h_{FE} *	DC forward current gain	V_{CE}=-4V, I_C=-100mA	150		800	—
$V_{CE(sat)}$	C to E saturation voltage	I_C=-500mA, I_B=-25mA		-0.25	-0.5	V
f_T	Gain band width product	V_{CE}=-6V, I_E=10mA		180		MHz

ITEM	E	F	G
h_{FE}	150～300	250～500	400～800

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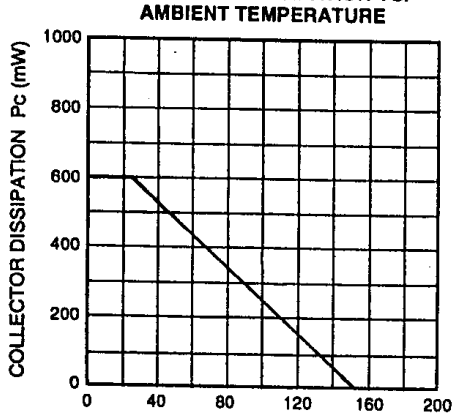
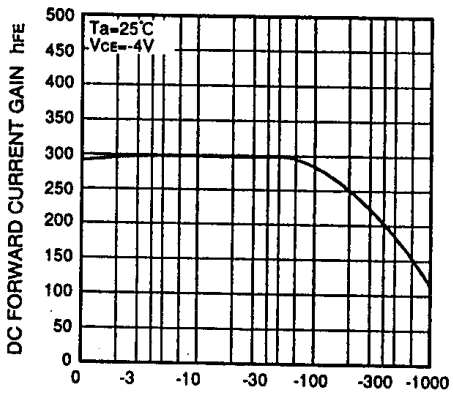
TYPICAL CHARACTERISTICS

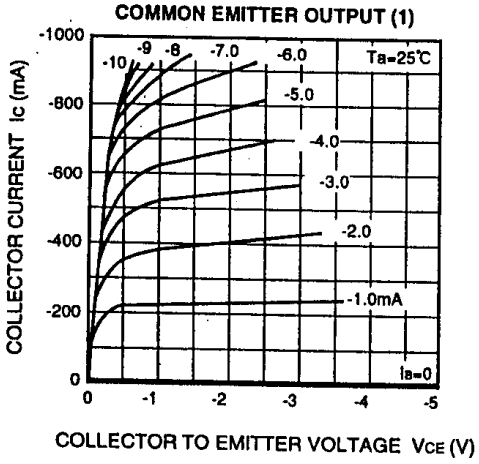
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



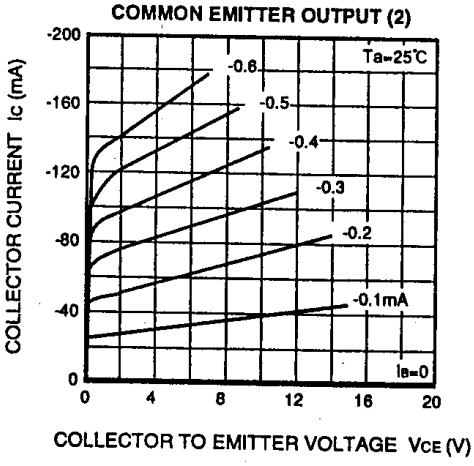
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



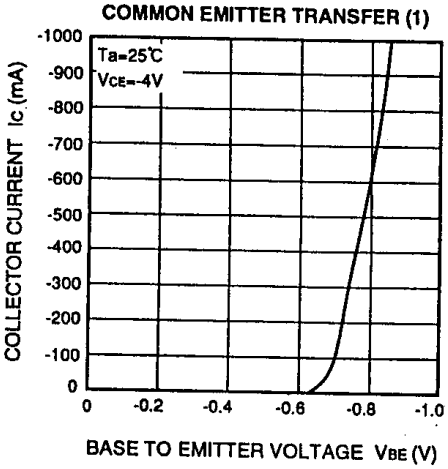
COMMON EMITTER OUTPUT (1)



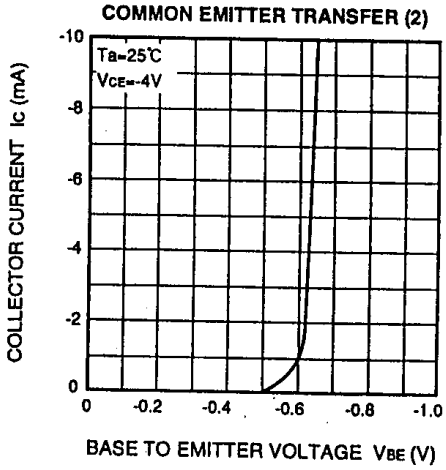
COMMON EMITTER OUTPUT (2)



COMMON EMITTER TRANSFER (1)



COMMON EMITTER TRANSFER (2)



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