2SA1602

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE(Super mini type)

DESCRIPTION

2SA1602 is a super mini package resin sealed silicon PNP epitaxial transistor,
It is designed for low frequency voltage application.

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FEATURE

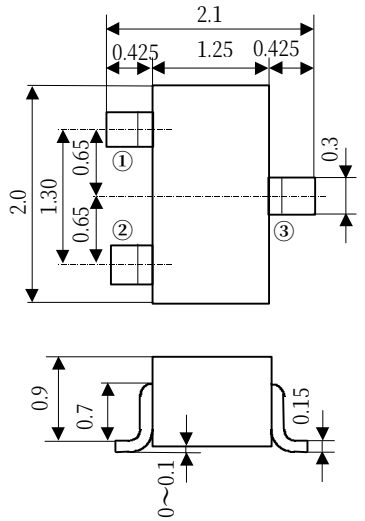
- Small collector to emitter saturation voltage.
  VCE(sat)=-0.3V max
- Excellent linearity of DC forward gain.
- Super mini package for easy mounting

APPLICATION

For Hybrid IC,small type machine low frequency voltage Amplify application.

OUTLINE DRAWING

Unit: mm



JEITA: SC-70

TERMINAL CONNECTER
①: BASE
②: EMITTER
③: COLLECTOR

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	-50	V
V_{CEO}	Collector to Emitter voltage	-50	V
V_{EBO}	Emitter to Base voltage	-6	V
I_O	Collector current	-200	mA
P_c	Collector dissipation	150	mW
T_j	Junction temperature	+125	°C
T_{stg}	Storage temperature	-55～+125	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
C to E break down voltage	V(BR)CEO	I_C=-100μA ,R_{BE}=∞	-50	-	-	V
Collector cut off current	ICBO	V_{CB}=-50V, I_E=0mA	-	-	-0.1	μA
Emitter cut off current	IEBO	V_{EB}=-6V, I_C=0mA	-	-	-0.1	μA
DC forward current gain	hFE	V_{CE}=-6V, I_C=-1mA ※	150	-	800	
DC forward current gain	hFE	V_{CE}=-6V, I_C=-0.1mA	90	-	-	
C to E Saturation Vlotage	VCE(sat)	I_C=-100mA ,I_B=-10mA	-	-	-0.3	V
Gain bandwidth product	fT	V_{CE}=-6V, I_E=-10mA	-	200	-	MHz
Collector output capacitance	Cob	V_{CB}=-6V, I_E=0,f=1MHz	-	4.0	-	pF

※) It shows hFE classification in below table.

Item	E	F	G
hFE Item	150~300	250~500	400~800

Semiconductor
〈Transistor〉

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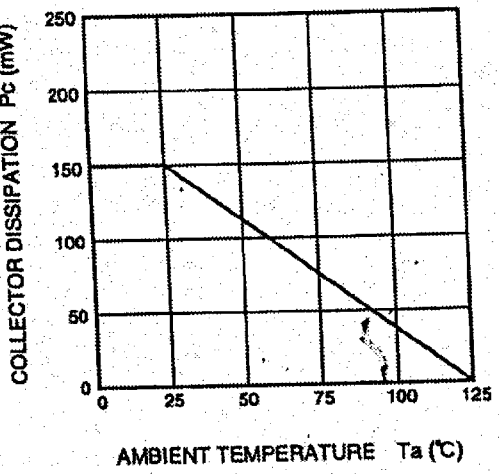
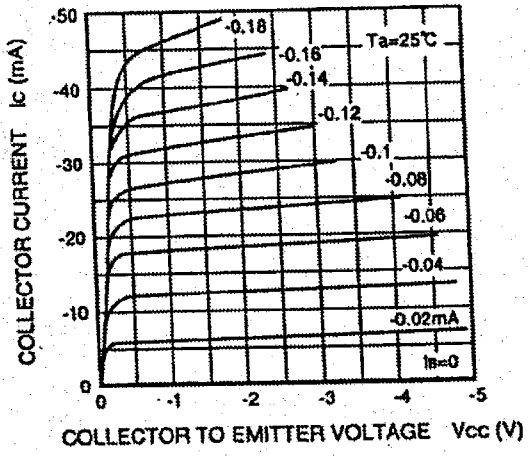
TYPICAL CHARACTERISTICS

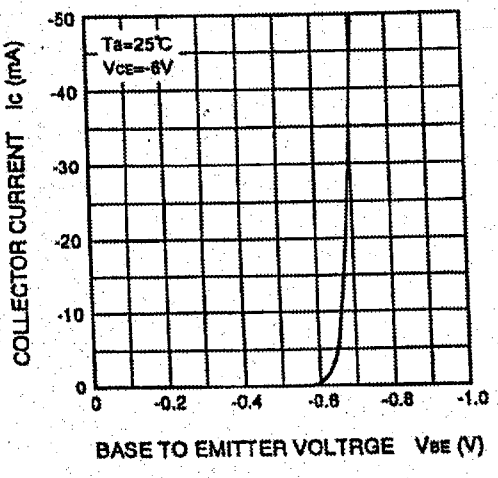
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



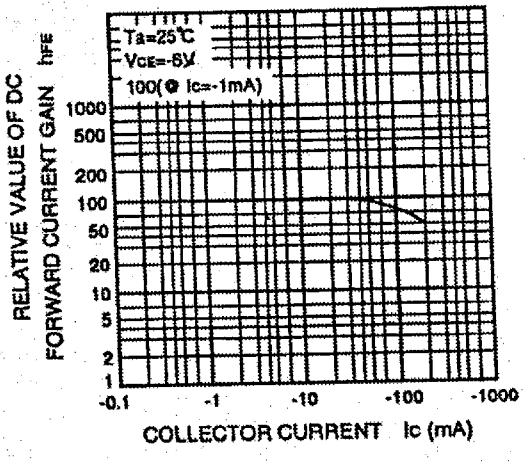
COMMON EMITTER OUTPUT



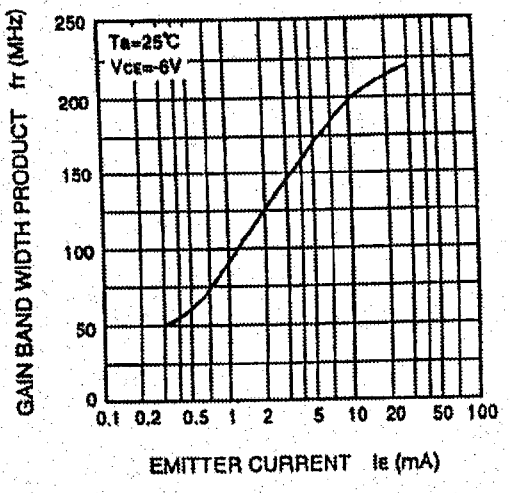
COMMON EMITTER TRANSFER



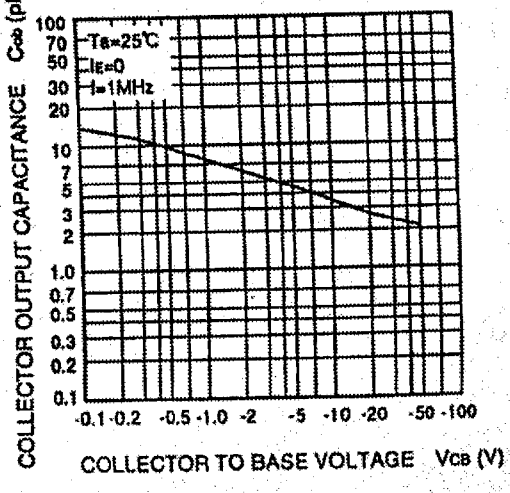
DC FORWORD CURRENT GAIN VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



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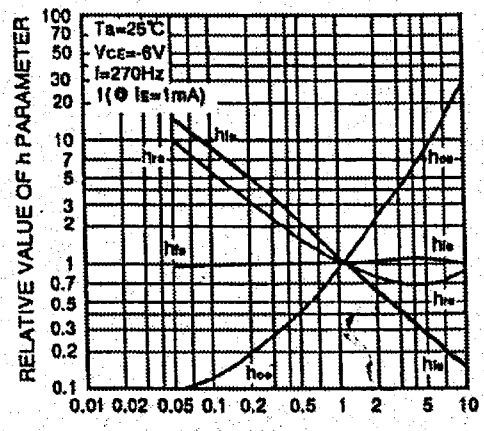
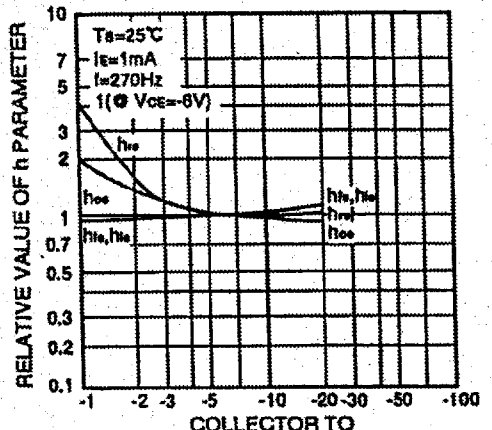
h PARAMETER VS.
EMITTER CURRENT



h PARAMENTER VS.
COLLECTOR TO EMITTER VOLTAGE



COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test conditions	Limits	Unit
h_{ie}	Closed loop small signal input impedance	Ta=25℃ VCE=-6V IE=1mA f=270Hz	7.0	kΩ
h_{re}	Open loop small signal reverse voltage amplification factor		0.1	$\times 10^{-3}$
h_{fe}	Closed loop small signal forward current amplification factor		250	—
h_{oe}	Open loop small signal output admittance		18	μS

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