〈SMALL-SIGNAL TRANSISTOR〉

2SA1235

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

DESCRIPTION

2SA1235 is a mini package resin sealed
silicon PNP epitaxial transistor,
It is designed for low frequency voltage application.

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FEATURE

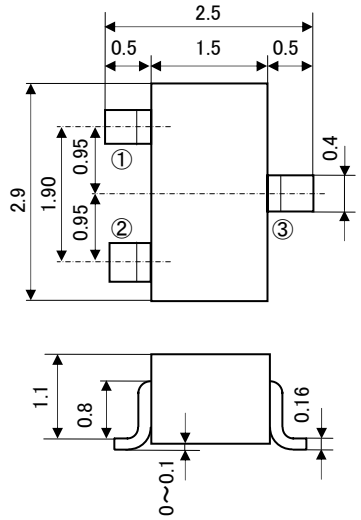
●Small collector to emitter saturation voltage.
VCE(sat)=−0.3V max(@Ic=−100mA,IB=−10mA)
●Excellent linearity of DC forward gain.
●Super mini package for easy mounting

APPLICATION

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

OUTLINE DRAWING

Unit:mm



JEITA:SC-59
JEDEC:Similar to TO-236

TERMINAL CONNECTER
①:BASE
②:EMITTER
③:COLLECTOR

MAXIMUM RATINGS(Ta=25℃)

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	200	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

ELECTRICAL CHARACTERISTICS(Ta=25℃)

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	−	pF
Noise figure	NF	V_{CE}=−6V, I_E=0.3mA,f=100Hz,RG=10kΩ	−	−	20	dB

※) It shows hFE classification in below table.

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

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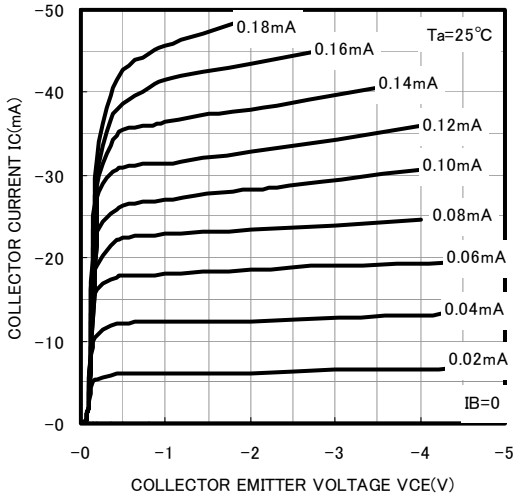
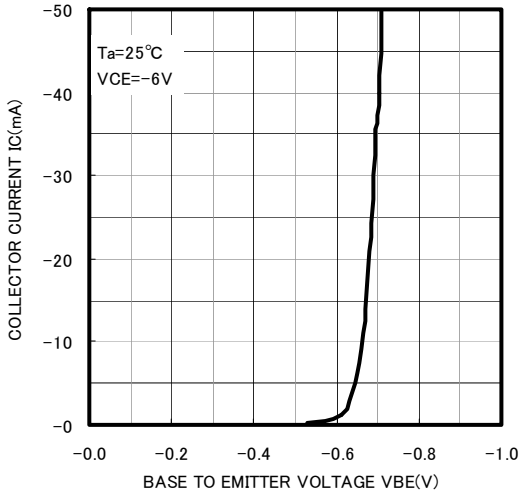
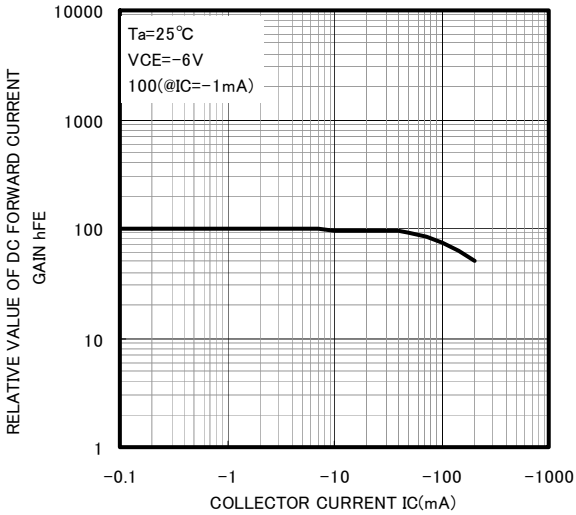
COMMON EMITTER OUTPUT



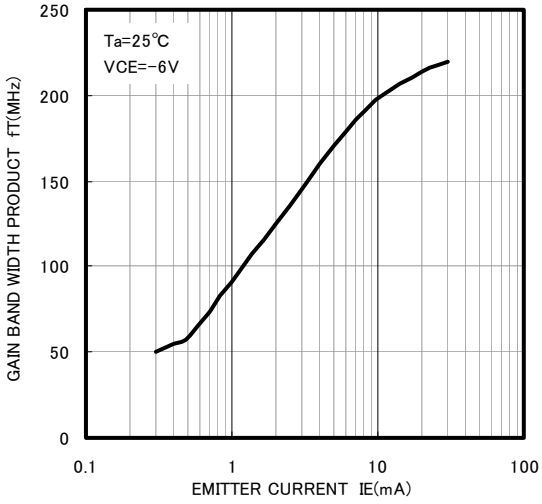
COMMON EMITTER TRANSFER



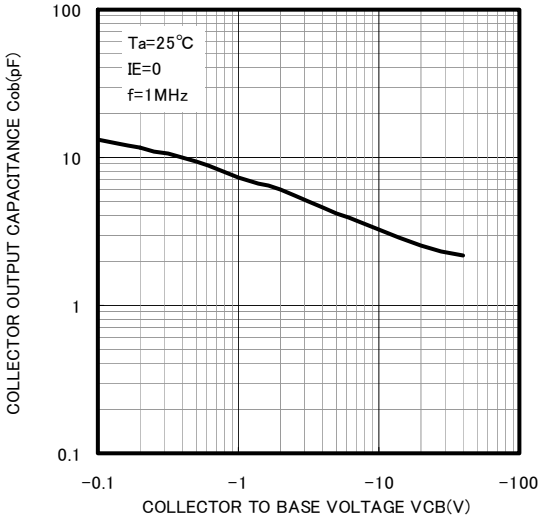
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



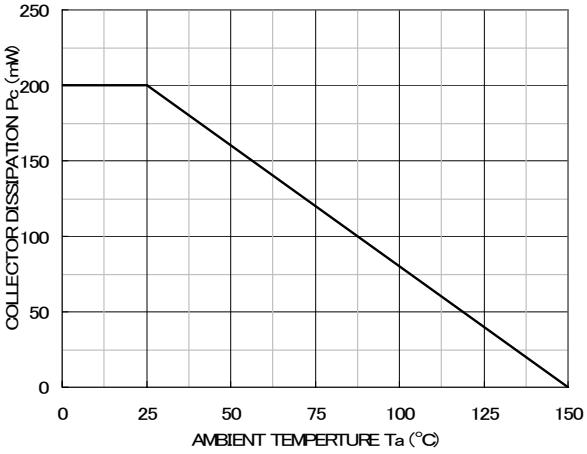
GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE



COLLECTOR DISSIPATION VS.AMBIENT TEMPERTURE



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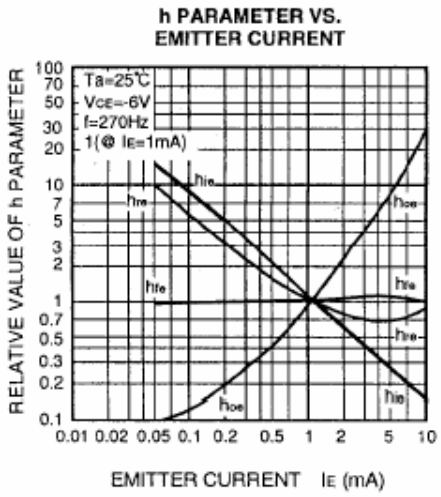

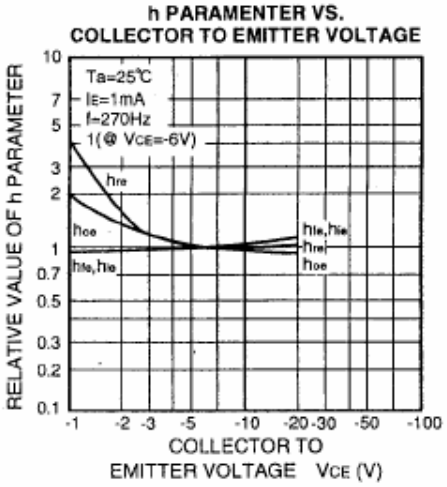

COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test conditions	Limits	Unit
hie	Closed loop small signal input impedance	Ta=25℃ VCE=-6V IE=1mA f=270Hz	7.0	kΩ
hre	Open loop small signal reverse voltage amplification factor		0.1	×10-3
hfe	Closed loop small signal forward current amplification factor		250	—
hoe	Open loop small signal output admittance		18	μS

ISAHAYA ELECTRONICS CORPORATION

Marketing division, Marketing planning department

6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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Jan.2003