ISA1235AC1 ISA1602AM1

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

ISA1235AC1 ISA1602AM1 is super mini package resin sealed silicon PNP epitaxial type transistor.

These are designed for low frequency voltage amplify application .

FEATURE

・Excellent linearity of DC forward current gain.

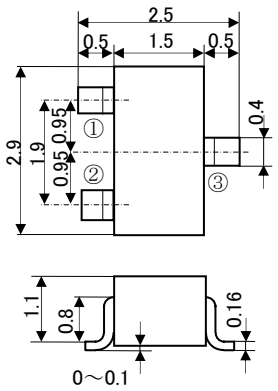
・Small collector to emitter saturation voltage
VCE(sat)=−0.3Vmax

APPLICATION

For small type machine low frequency voltage amplify application.

OUTLINE DRAWING UNIT:mm

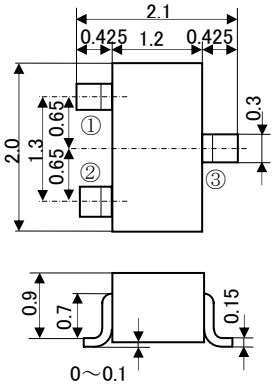
ISA1235AC1



JEITA:SC-59
JEDEC:TO-236 resemblance

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

ISA1602AM1



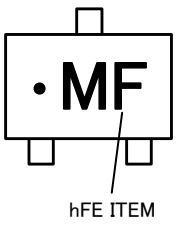
JEITA:SC-70
JEDEC:—

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

MAXIMUM RATINGS(Ta=25℃)

Symbol	Parameter	Ratings		UNIT
		ISA1235AC1	ISA1602AM1	
V_{CBO}	Collector to Base voltage	−60		V
V_{EBO}	Collector to Emitter voltage	−6		V
V_{CEO}	Emitter to Base voltage	−50		V
I_C	Collector current	−200		mA
P_C	Collector dissipation	200		mW
Tj	Junction temperature	+150		℃
Tstg	Storage temperature	−55～+150		℃

MARKING



ELECTRICAL CHARACTERISTICS(Ta=25℃)

Symbol	Parameter	Test conditions	Limits			UNIT
			Min	Ave	Max	
$V_{(BR)CEO}$	Collector to Emitter Breakdown voltage	I_C=−100μA, R_{BE}=∞	−50			V
I_{CBO}	Collector cut off current	V_{CB}=−60V, I_E=0			−0.1	μA
I_{EBO}	Emitter cut off current	V_{EB}=−6V, I_C=0			−0.1	μA
h_{FE}*	DC forward current gain	V_{CE}=−6V, I_C=−1mA	150		500	—
h_{FE}	DC forward current gain	V_{CE}=−6V, I_C=−0.1mA	90			—
$V_{CE(sat)}$	Collector to Emitter saturation voltage	I_C=−100mA, I_B=−10mA			−0.3	V
f_T	Gain bandwidth product	V_{CE}=−6V, I_E=10mA		200		MHz
Cob	Collector output capacitance	V_{CB}=−6V, I_E=0,f=1MHz		4.0		pF
NF	Noise Figure	V_{CE}=−6V, I_E=0.3mA, f=100Hz, RG=10kΩ			20	dB

*:It shows hFE classification in below table.

	E	F
hFE	150～300	250～500

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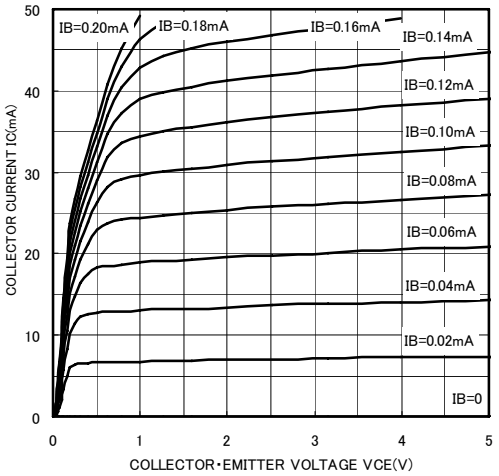
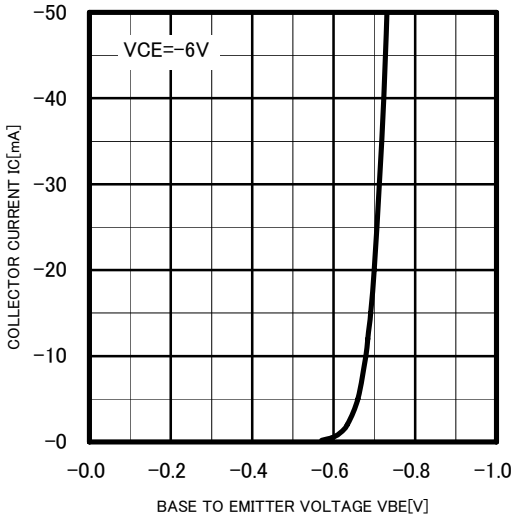
TYPICAL CHARACTERISTICS

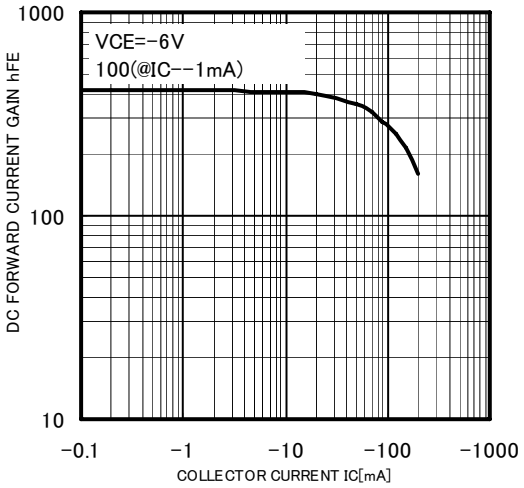
COMMON EMITTER OUTPUT



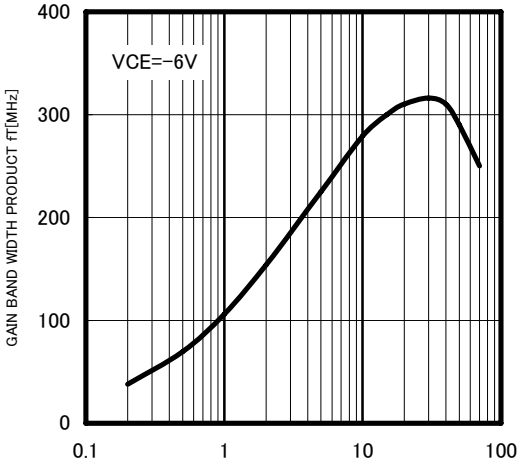
COMMON EMITTER TRANSFER



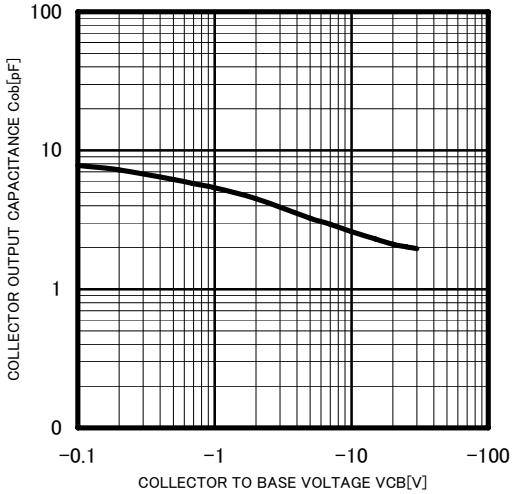
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



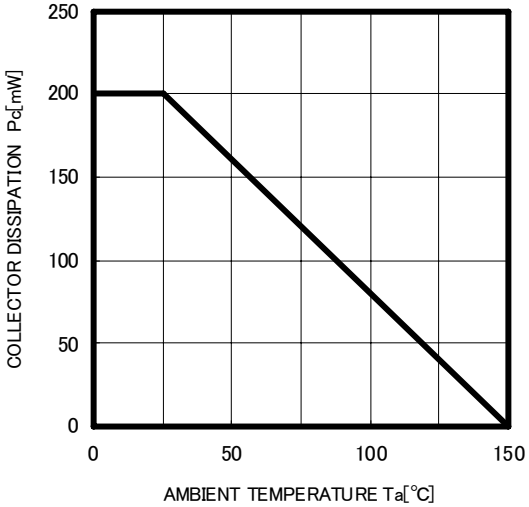
GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE



COLLECTOR DISSIPATION VS AMBIENT TEMPERATURE



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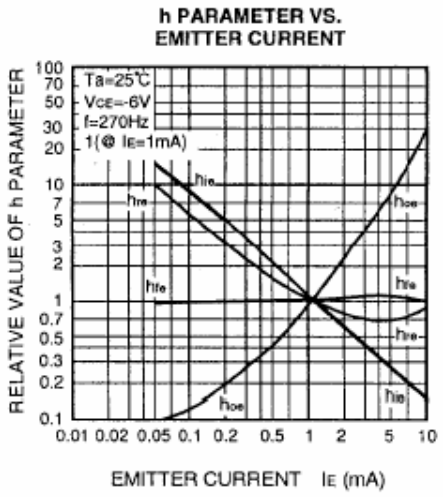

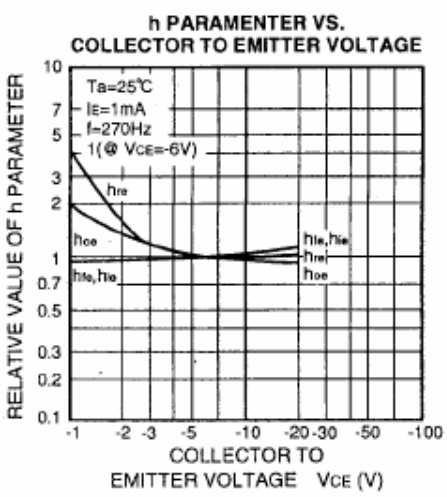

COMMON EMITTER h PARAMETER (TYPICAL VALUE)

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

ISAHAYA ELECTRONICS CORPORATION

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