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.

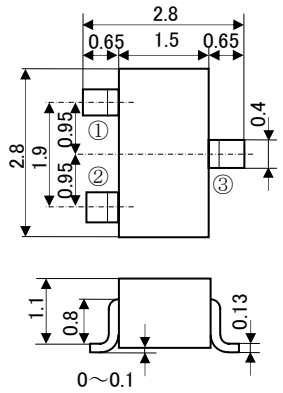
・Small collector to emitter saturation voltage
VCE(sat)=−0.3Vmax

APPLICATION

For small type machine low frequency voltage amplify application.

OUTLINE DRAWING UNIT:mm

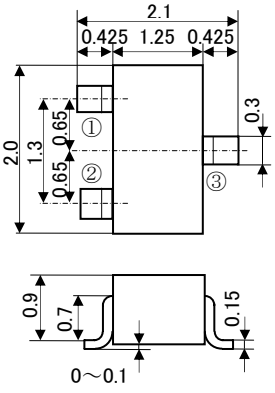
ISA1235AC1



JEITA:SC-59
JEDEC:TO-236 resemblance

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

ISA1602AM1



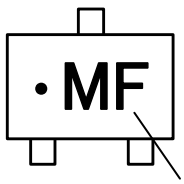
JEITA:SC-70
JEDEC:—

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



hFE ITEM

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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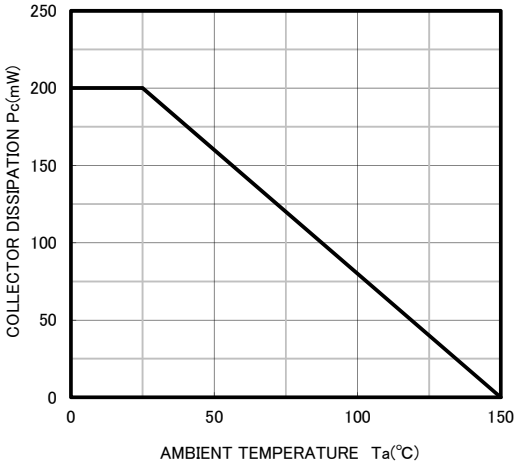
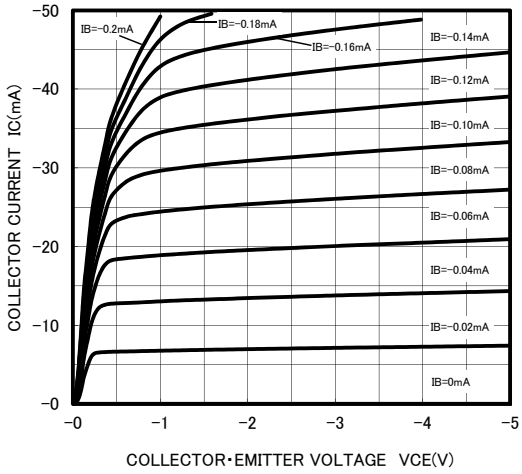
TYPICAL CHARACTERISTICS

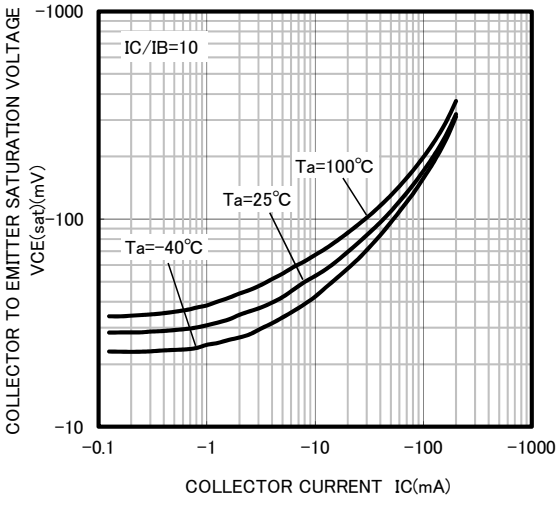
COLLECTOR DISSIPATION
VS AMBIENT TEMPERATURE



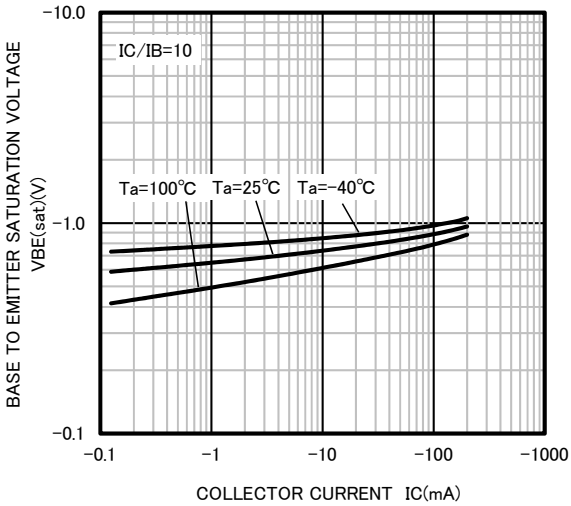
COMMON EMITTER OUTPUT



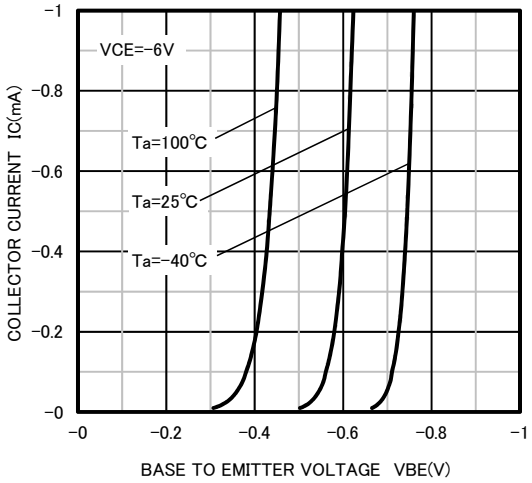
COLLECTOR TO EMITTER SATURATION VOLTAGE
VS COLLECTOR CURRENT



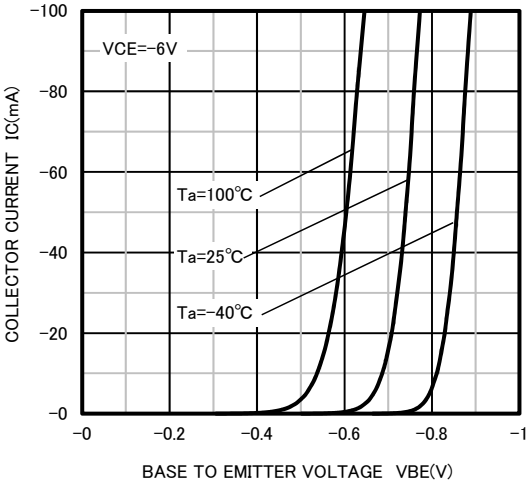
BASE TO EMITTER SATURATION VOLTAGE
VS COLLECTOR CURRENT



COMMON EMITTER TRANSFER



COMMON EMITTER TRANSFER



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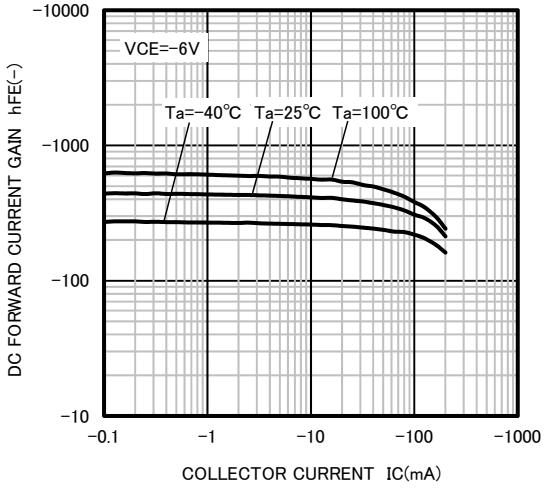
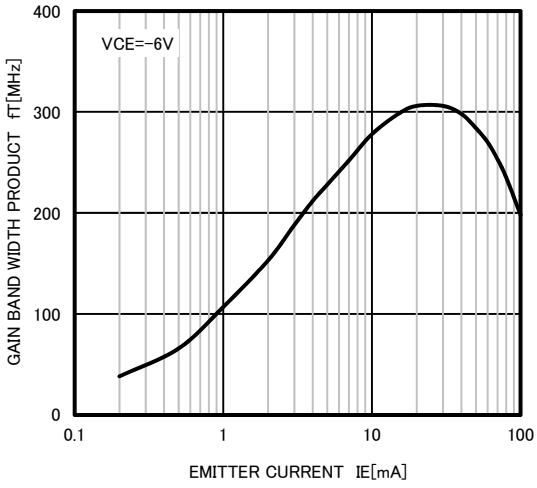
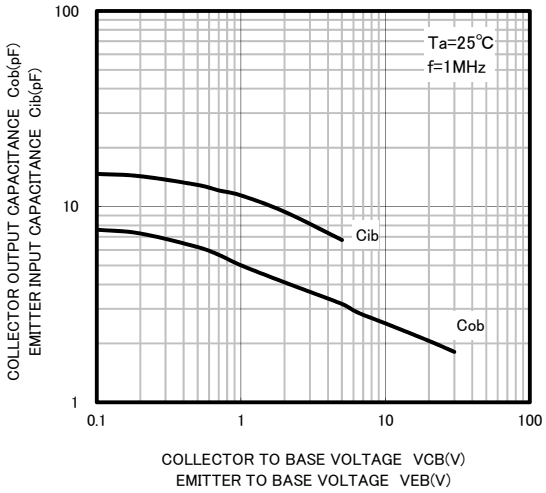
DC FORWARD CURRENT GAIN
VS COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE
VS COLLECTOR TO BASE VOLTAGE
EMITTER INPUT CAPACITANCE
VS EMITTER TO BASE VOLTAGE



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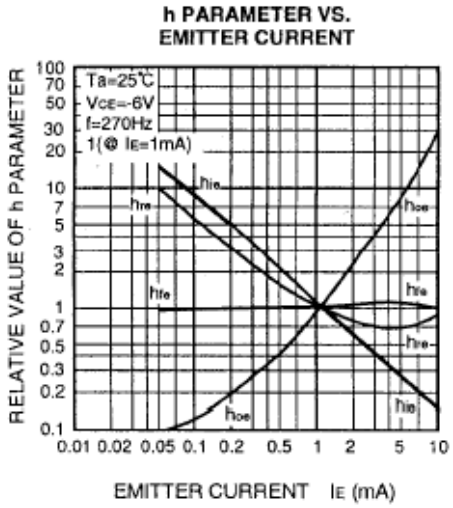

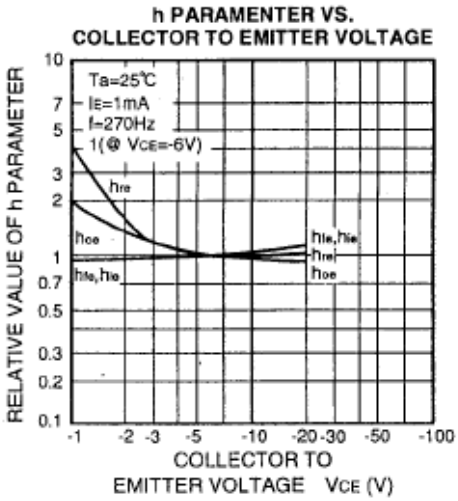

COMMON EMITTER h PARAMETER(TYPICAL VALUE)

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	$\times 10^{-3}$
hfe	Closed loop small signal forward current amplification factor		250	—
hoe	Open loop small signal output admitance		18	μs

ISAHAYA ELECTRONICS CORPORATION

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