RT3C66M

Dual Transistor
For Differential Amplify Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT3C66M is a silicon NPN epitaxial type dual transistor.
It is designed for differential amplify application.

FEATURE

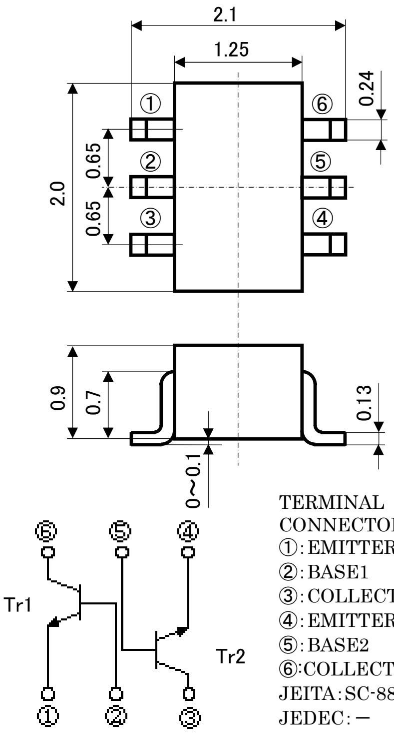
- ●High VCEO VCEO=160V
- ●Good two elements characteristics
  hFE1/hFE2=1.0 typ
  | VBE1-VBE2 | =0mV typ

APPLICATION

For differential amplify application.

OUTLINE DRAWING

Unit: mm

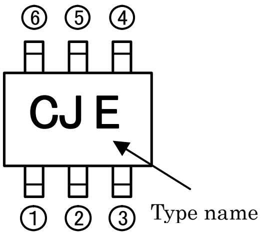


TERMINAL
CONNECTOR
①: EMITTER1
②: BASE1
③: COLLECTOR2
④: EMITTER2
⑤: BASE2
⑥: COLLECTOR1
JEITA: SC-88
JEDEC: −

MAXIMUM RATING (Ta=25℃) (Tr1 , Tr2.)

SYMBOL	PARAMETER	RATING	UNIT
VCBO	Collector to Base voltage	180	V
VEBO	Emitter to Base voltage	6	V
VCEO	Collector to Emitter voltage	160	V
ICM	Peak collector current	200	mA
IC	Collector current	100	mA
PT	Total dissipation	200	mW
Tj	Junction temperature	＋150	℃
Tstg	Storage temperature	-55～＋150	℃

MARKING

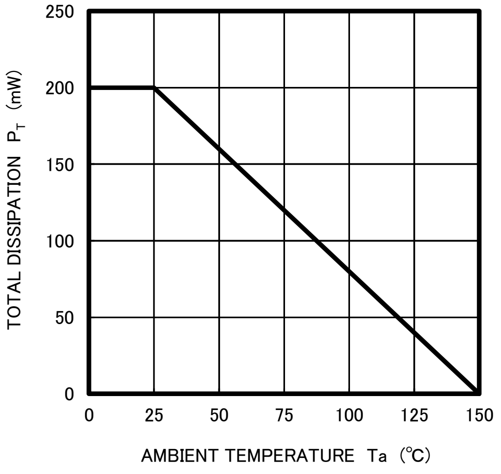


ELECTRICAL CHARACTERISTICS (Ta=25℃) (Tr1, Tr2.)

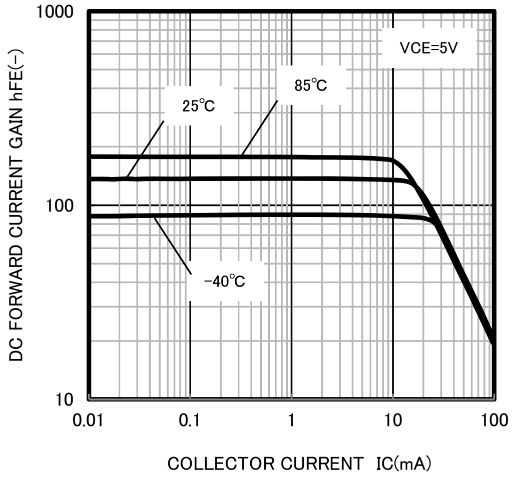
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
V(BR)CBO	C to B breakdown voltage	IC=100μA, IE=0A	180	－	－	V
V(BR)EBO	E to B breakdown voltage	IE=10μA, IC=0A	6	－	－	V
V(BR)CEO	C to E breakdown voltage	IC=1mA, RBE=∞	160	－	－	V
ICBO	Collector cut off current	VCB=120V, IE =0A	－	－	100	nA
IEBO	Emitter cut off current	VEB=4V, IC=0A	－	－	100	nA
hFE1	DC forward current gain1	VCE=5V, IC=1mA	72	－	－	－
hFE2	DC forward current gain2	VCE=5V, IC=10mA	72	－	330	－
hFE3	DC forward current gain3	VCE=5V, IC=50mA	27	－	－	－
VCE(sat)1	C to E saturation voltage1	IC=10mA, IB=1mA	－	－	0.15	V
VCE(sat)2	C to E saturation voltage2	IC=50mA, IB=5mA	－	－	0.2	V
VBE(sat)1	B to E saturation voltage1	IC=10mA, IB=1mA	－	－	1.0	V
VBE(sat)2	B to E saturation voltage2	IC=50mA, IB=5mA	－	－	1.0	V
∣VBE1-VBE2∣ (※VBE1:Tr1,VBE2:Tr2)	B-E voltage differential	VCE=5V, IC=1mA	－	0	10	mV
hFE1/hFE2 (※hFE1:Tr1,hFE2:Tr2)	DC forward current gain ratio	VCE=5V, IC=1mA	0.9	1.0	1.1	－
fT	Gain bandwidth product	VCE=10V, IE=-10mA	100	－	300	MHz
Cob	Collector output capacitance	VCB=10V, IE=0A, f=1MHz	－	1.7	6	pF
Cib	Emitter input capacitance	VEB=0.5V, IC=0A, f=1MHz	－	－	20	pF

TYPICAL CHARACTERISTICS (Tr1,Tr2.)

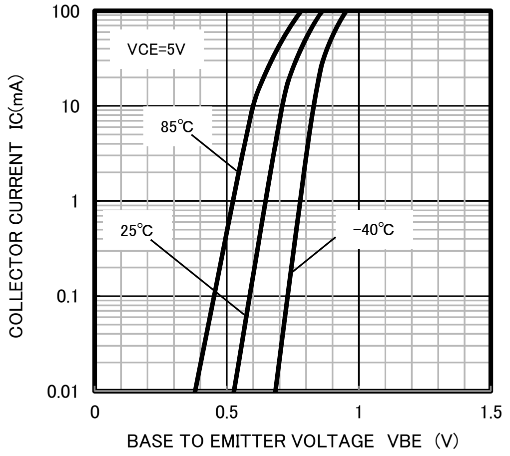
TOTAL DISSIPATION VS.
AMBIENT TEMPERATURE



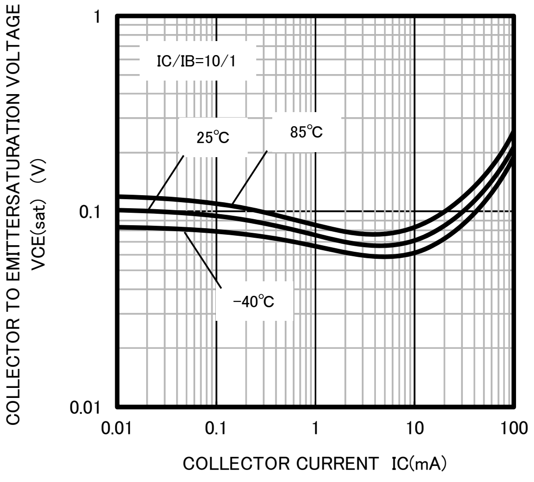
DC FORWARD CURRENT GAIN VS.
COLLECTOR CURRENT



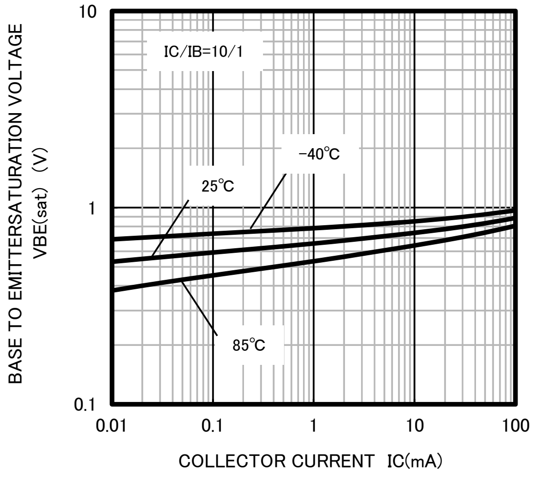
COMMON EMITTER TRANSFER



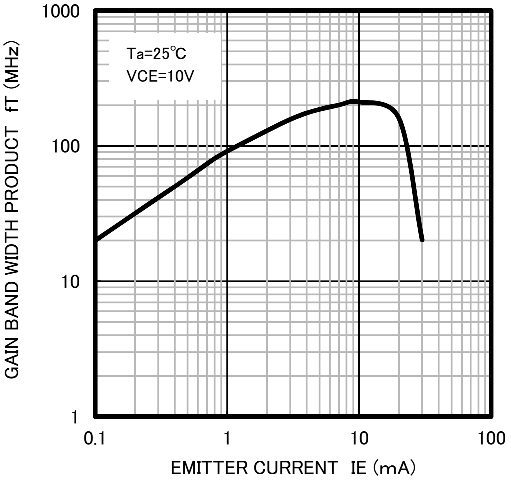
COLLECTOR TO EMITTERSATURATION
VOLTAGE VS. COLLECTOR CURRENT



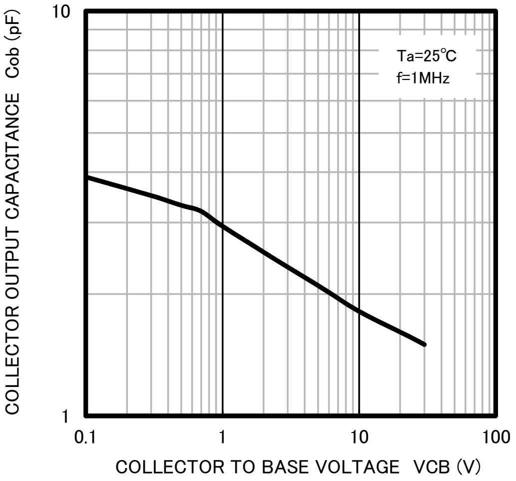
BASE TO EMITTERSATURATION VOLTAGE
VS. COLLECTOR CURRENT



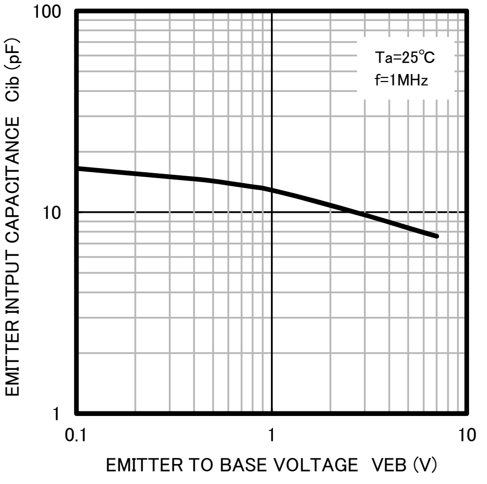
GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE



EMITTER INPUT CAPACITANCE
VS. EMITTER TO BASE VOLTAGE



ISAHAYA ELECTRONICS CORPORATION

Keep safety first in your circuit designs!

·ISAHAYA Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1) placement of substitutive, auxiliary, (2) use of non-farmable material or (3) prevention against any malfunction or mishap.

Notes regarding these materials

·These materials are intended as a reference to our customers in the selection of the ISAHAYA products best suited to the customer’s application; they don't convey any license under any intellectual property rights, or any other rights, belonging ISAHAYA or third party.

·ISAHAYA Electronics Corporation assumes no responsibility for any damage, or infringement of any third party's rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in these materials.

·All information contained in these materials, including product data, diagrams and charts, represent information on products at the time of publication of these materials, and are subject to change by ISAHAYA Electronics Corporation without notice due to product improvements or other reasons. It is therefore recommended that customers contact ISAHAYA Electronics Corporation or an authorized ISAHAYA products distributor for the latest product information before purchasing product listed herein.

·ISAHAYA Electronics Corporation products are not designed or manufactured for use in a device or system that is used under circumstances in which human life is potentially at stake. Please contact ISAHAYA Electronics Corporation or an authorized ISAHAYA products distributor when considering the use of a product contained herein for any specific purposes, such as apparatus or systems for transportation, vehicular, medical, aerospace, nuclear, or undersea repeater use.

·The prior written approval of ISAHAYA Electronics Corporation is necessary to reprint or reproduce in whole or in part these materials.

·If these products or technologies are subject to the Japanese export control restrictions, they must be exported under a license from the Japanese government and cannot be imported into a country other than the approved destination. Any diversion or re-export contrary to the export control laws and regulations of Japan and/or the country of destination is prohibited.

·Please contact ISAHAYA Electronics Corporation or authorized ISAHAYA products distributor for further details on these materials or the products contained therein.