RT3X99M

Composite Transistor
For Muting Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT3X99M is a composite transistor with built-in bias resistor

FEATURE

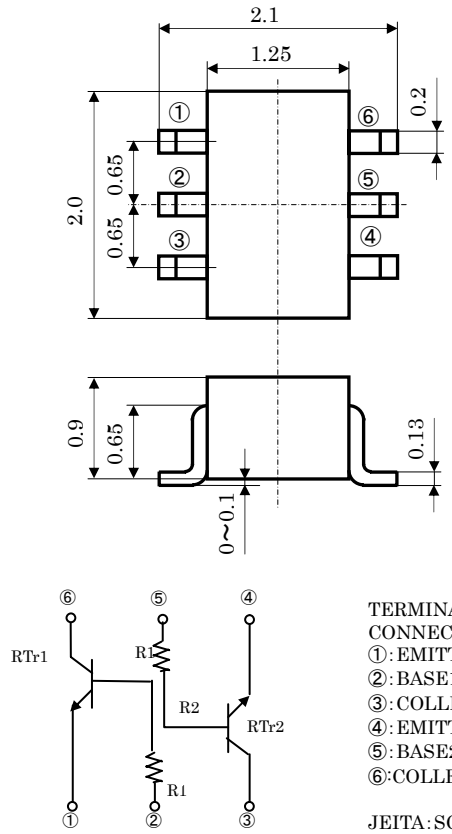
- Built-in bias resistor (R1=2..2 KΩ)
- Mini package for easy mounting

APPLICATION

muting circuit、switching circuit

OUTLINE DRAWING

Unit:mm



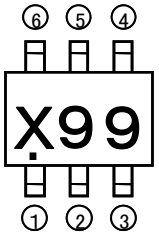
TERMINAL CONNECTOR
①:EMITTER1
②:BASE1
③:COLLECTOR2
④:EMITTER2
⑤:BASE2
⑥:COLLECTOR1

JEITA:SC-88

MAXIMUM RATINGS (Ta=25℃)(RTr1、RTr2)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	40	V
V_{EBO}	Emitter to Base voltage	40	V
V_{CEO}	Collector to Emitter voltage	20	V
I_C	Collector current	400	mA
P_C	Collector dissipation(Total Ta=25℃)	150	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

MARKING

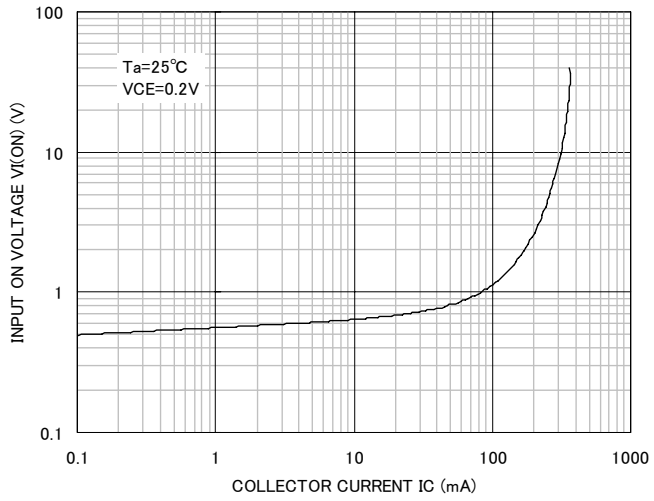


Electrical characteristics (Ta=25℃)

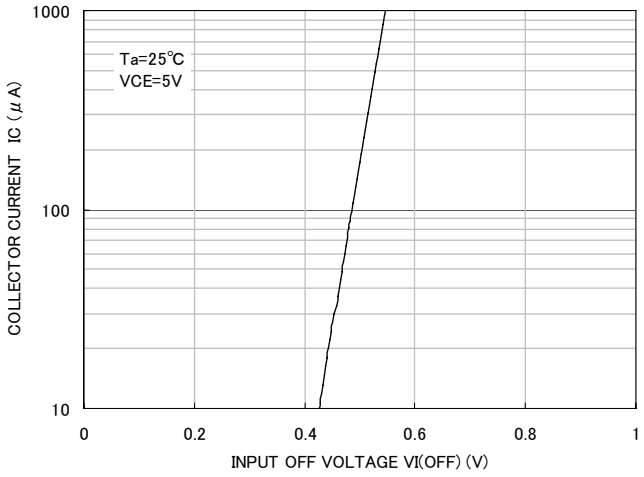
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V_{CBO}	Collector-base breakdown voltage	I_C=50 μA , I_E=0mA	40			V
V_{EBO}	Emitter-base breakdown voltage	I_E=50 μA , $_C$=0mA	40			V
V_{CEO}	Collector-emitter breakdown voltage	I_C=1mA , R_{BE}=∞	20			V
I_{CBO}	Collector cutoff current	V_{CB}=40V , I_E=0mA			0.5	μA
I_{EBO}	Emitter cutoff current	V_{EB}=40V , I_C=0mA			0.5	μA
h_{FE}	DC current transfer ratio	V_{CE}=5V , I_C=-10mA	820		2500	-
VCE(sat)	Collector-emitter saturation voltage	I_C=10mA , I_B=0.5mA		10		mV
R1	Input resistance	-	1.54	2.2	2.86	KΩ
fT	Transition frequency	V_{CE}=10V, I_E=-10mA, f=100MHz		40		MHz
Ron	Output On-resistance	V_I=5V, f=1MHz		0.70		Ω

TYPICAL CHARACTERISTICS (Tr1、Tr2)

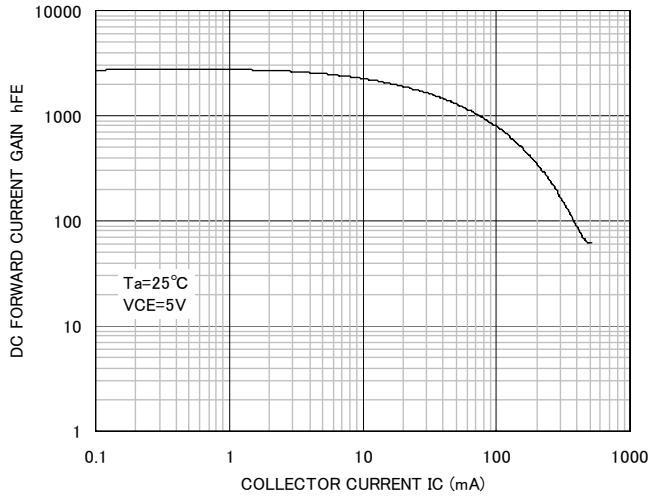
INPUT ON VOLTAGE
VS. COLLECTOR CURRENT



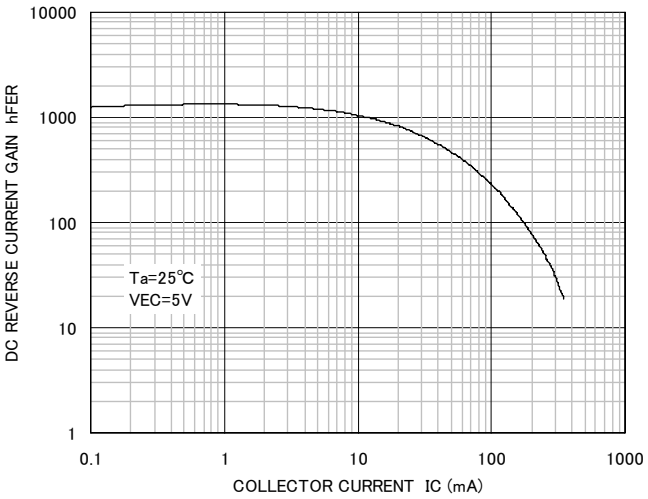
COLLECTOR CURRENT
VS. INPUT OFF VOLTAGE



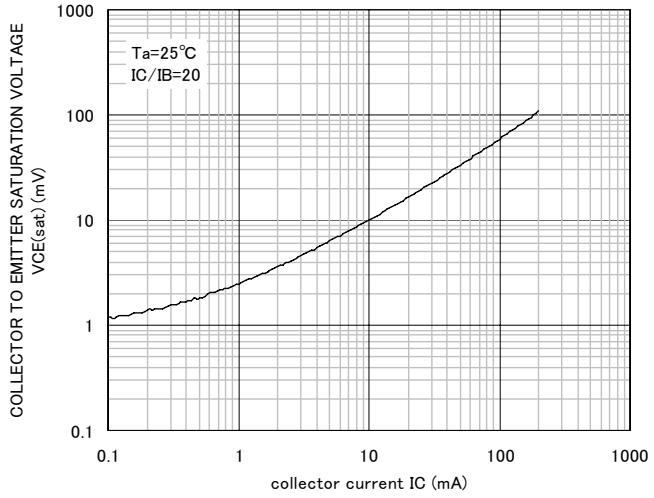
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



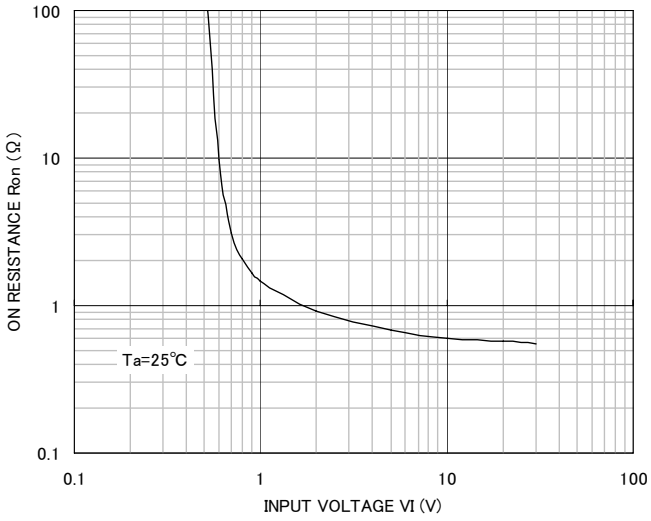
DC REVERSE CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



ON RESISTANCE VS. INPUT VOLTAGE



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