

RT3X99M

Composite Transistor
For Muting Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT3X99M is a composite transistor with built-in bias resistor

FEATURE

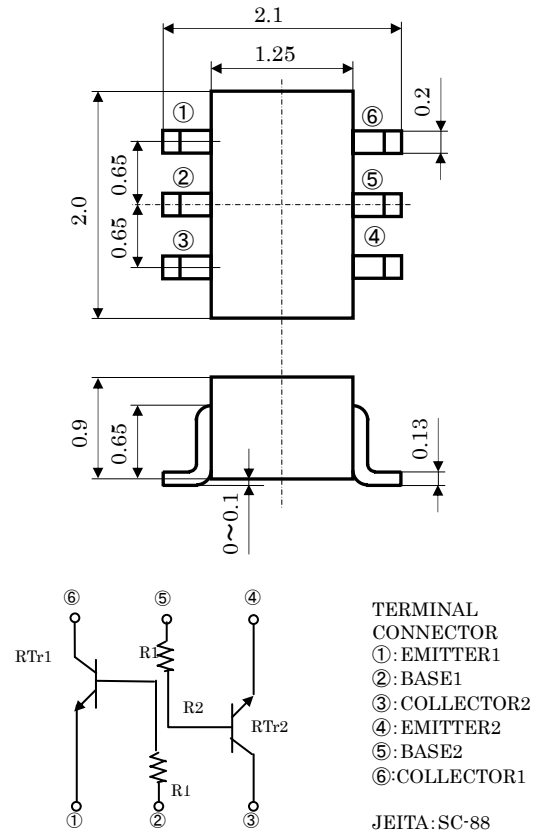
- Built-in bias resistor ($R1=2.2\text{ K}\Omega$)
- Mini package for easy mounting

APPLICATION

muting circuit、switching circuit

OUTLINE DRAWING

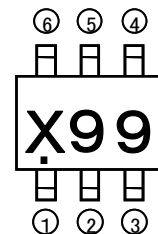
Unit: mm



MAXIMUM RATINGS (Ta=25°C) (RTTr1、RTTr2)

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°C)	150	mW
T_j	Junction temperature	+150	°C
T_{stg}	Storage temperature	-55~+150	°C

MARKING



RT3X99M

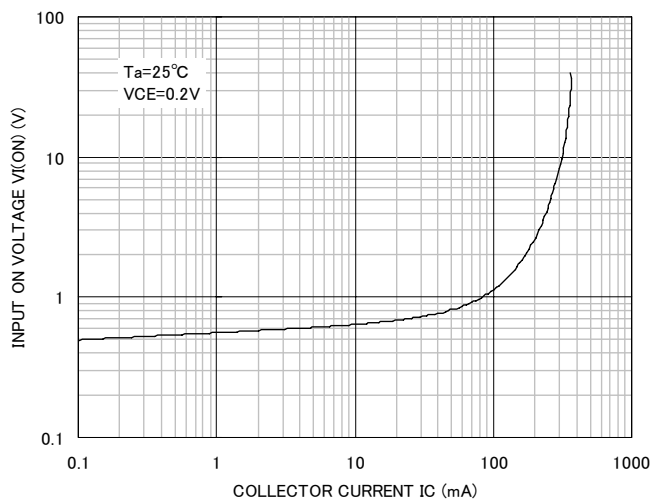
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Electrical characteristics (Ta=25°C)

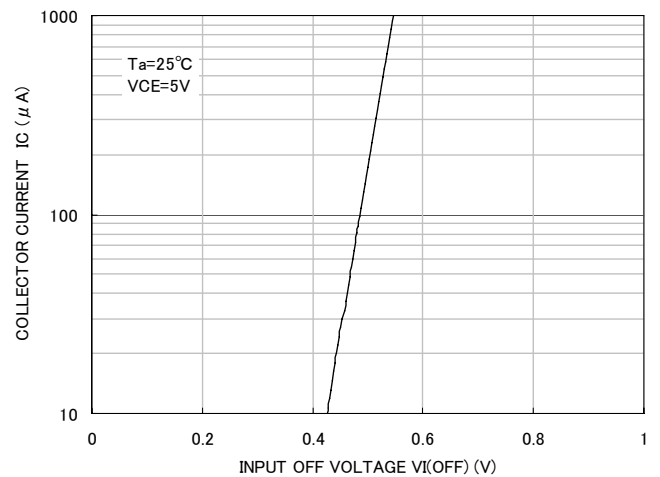
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V _{CBO}	Collector-base breakdown voltage	I _C =50 μ A , I _E =0mA	40			V
V _{EBO}	Emitter-base breakdown voltage	I _E =50 μ A , I _C =0mA	40			V
V _{CEO}	Collector-emitter breakdown voltage	I _C =1mA , R _{BE} = ∞	20			V
I _{CBO}	Collector cutoff current	V _{CB} =40V , I _E =0mA			0.5	μ A
I _{EBO}	Emitter cutoff current	V _{EB} =40V , I _C =0mA			0.5	μ A
h _{FE}	DC current transfer ratio	V _{CE} =5V , I _C =10mA	820		2500	—
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =10mA , I _B =0.5mA		10		mV
R _I	Input resistance	—	1.54	2.2	2.86	K Ω
f _T	Transition frequency	V _{CE} =10V , I _E =10mA , f=100MHz		40		MHz
R _{on}	Output On-resistance	V _I =5V , f=1MHz		0.70		Ω

TYPICAL CHARACTERISTICS (Tr1、Tr2)

INPUT ON VOLTAGE
VS. COLLECTOR CURRENT



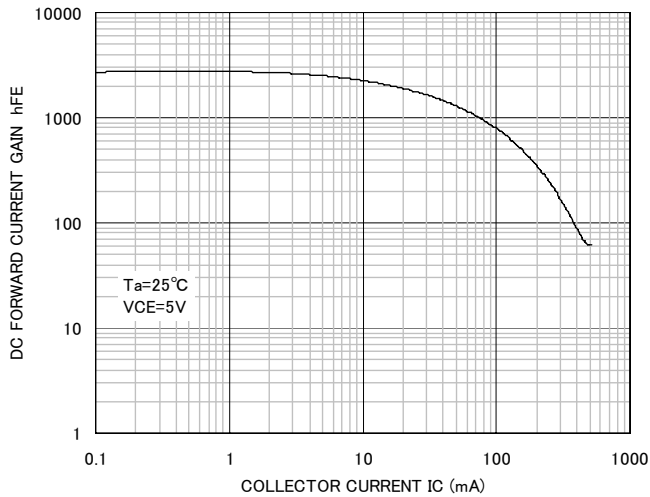
COLLECTOR CURRENT
VS. INPUT OFF VOLTAGE



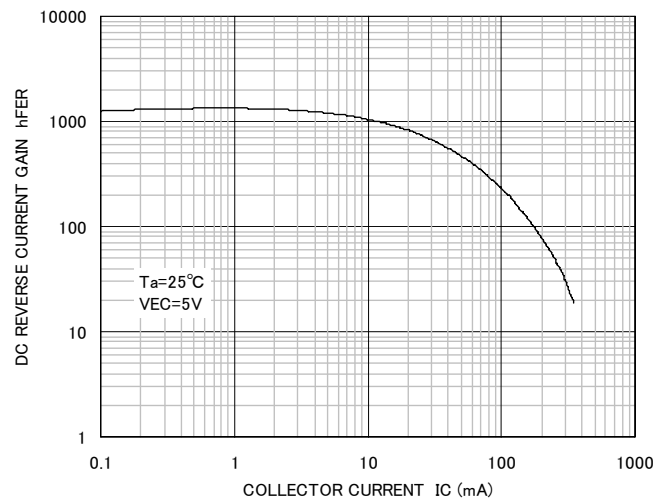
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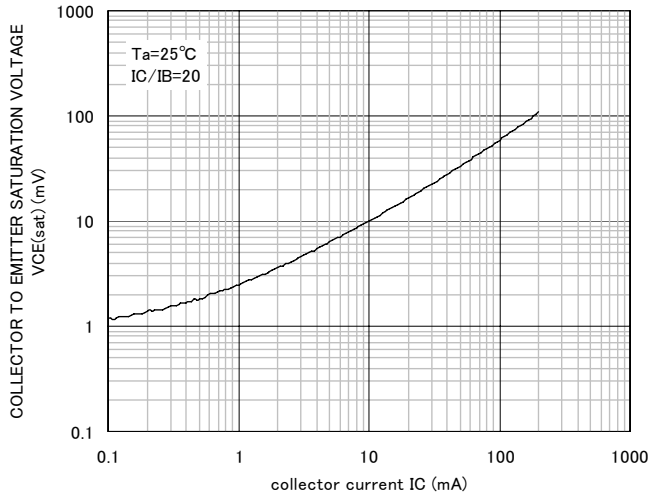
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



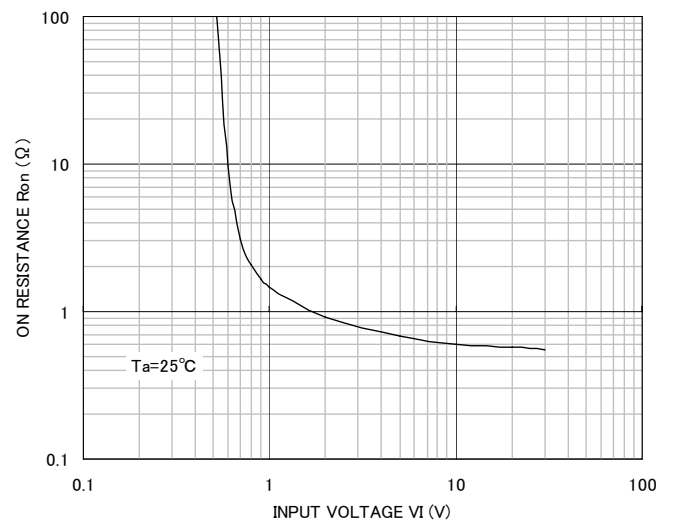
DC REVERSE CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



ON RESISTANCE VS. INPUT VOLTAGE





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