

RT3X99M

Composite Transistor
For Muting Application
Silicon NPN Epitaxial Type

DESCRIPTION

RT3X99M is a composite transistor with built-in bias resistor

FEATURE

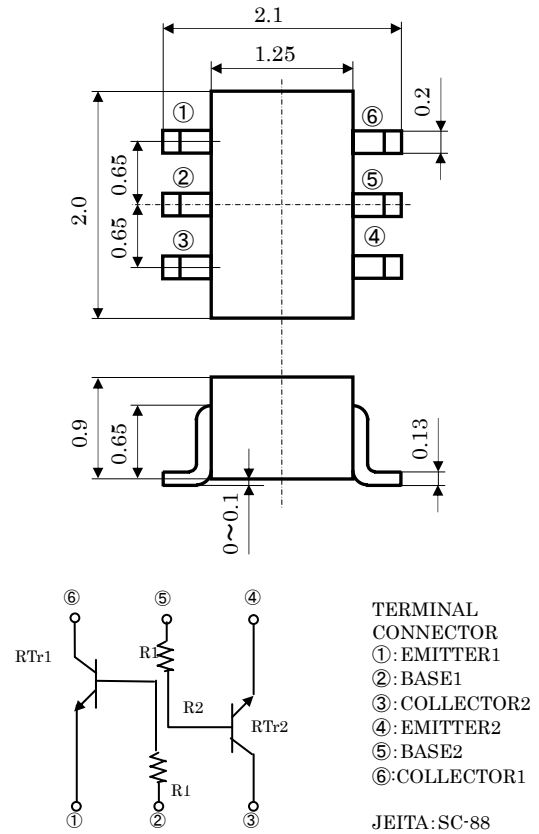
- Built-in bias resistor ($R1=2.2\text{ K}\Omega$)
- Mini package for easy mounting

APPLICATION

muting circuit、switching circuit

OUTLINE DRAWING

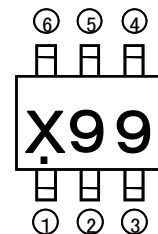
Unit: mm



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

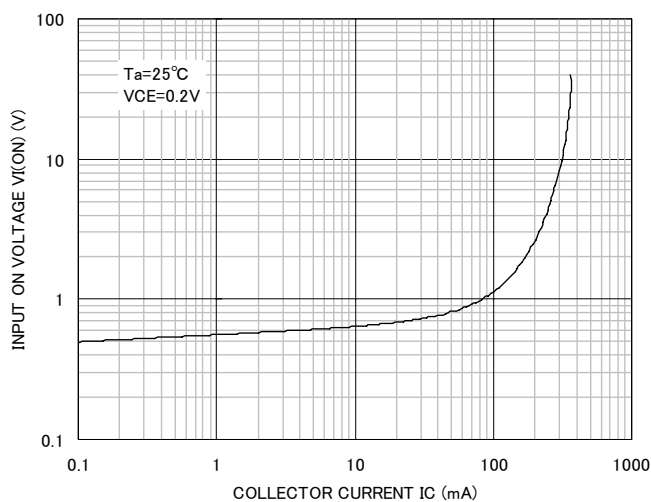
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Electrical characteristics (Ta=25°C)

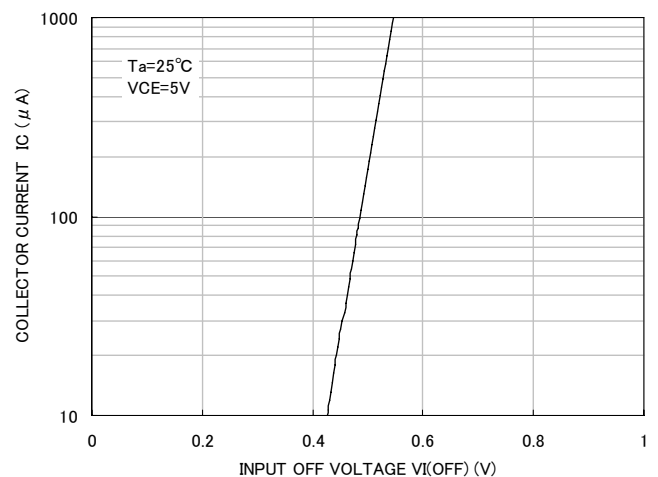
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V_{CBO}	Collector-base breakdown voltage	$I_C=50\mu A$, $I_E=0mA$	40			V
V_{EBO}	Emitter-base breakdown voltage	$I_E=50\mu A$, $I_C=0mA$	40			V
V_{CEO}	Collector-emitter breakdown voltage	$I_C=1mA$, $R_{BE}=\infty$	20			V
I_{CBO}	Collector 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	—
$V_{CE(sat)}$	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	$V_{CE}=5V$, $f=1MHz$		0.70		Ω

TYPICAL CHARACTERISTICS (Tr1, Tr2)

INPUT ON VOLTAGE
VS. COLLECTOR CURRENT



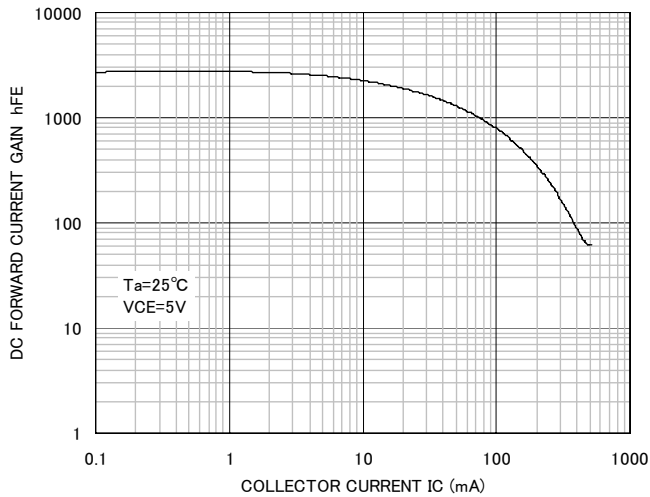
COLLECTOR CURRENT
VS. INPUT OFF VOLTAGE



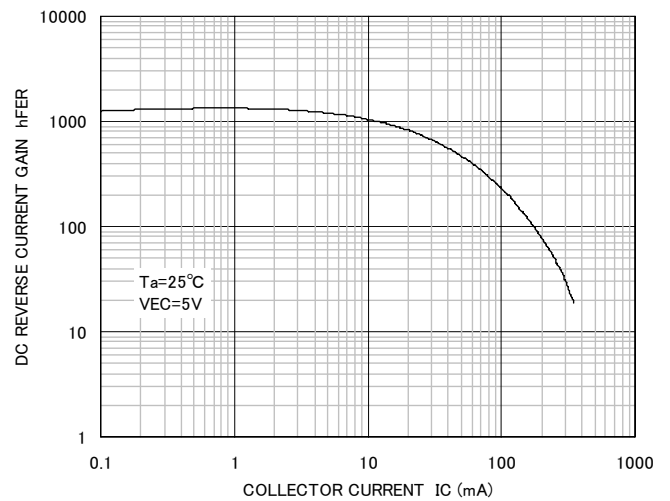
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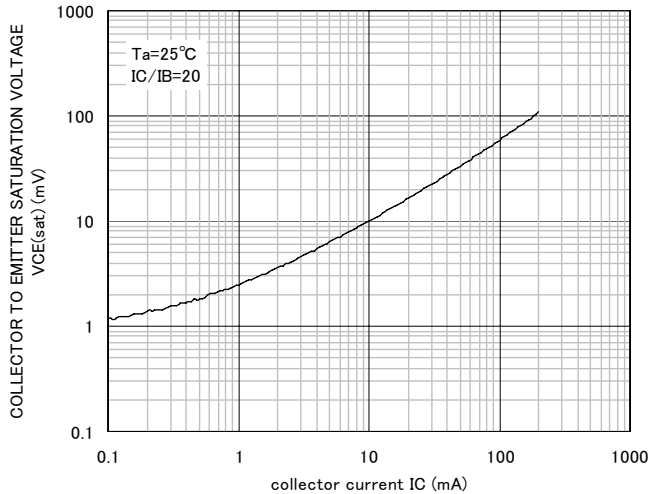
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



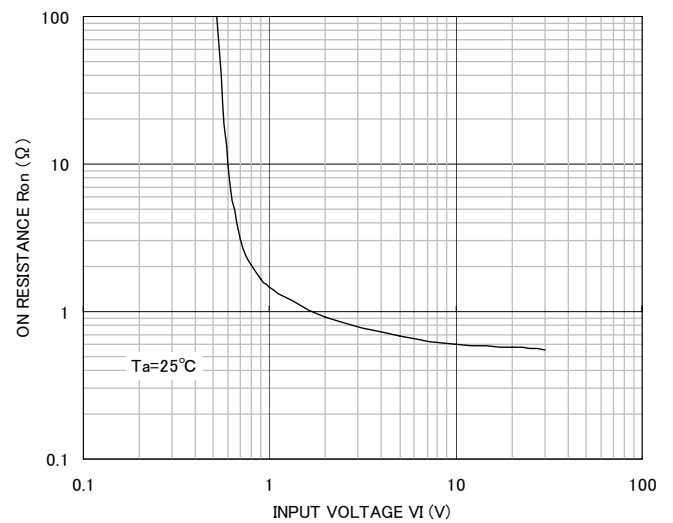
DC REVERSE CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



ON RESISTANCE VS. INPUT VOLTAGE





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