

# RT3Y97M

Composite Transistor  
For Muting Application

## DESCRIPTION

RT3Y97M is a composite transistor built with RT1P140 and two muting transistor with resistor in SC-88 package.

## FEATURE

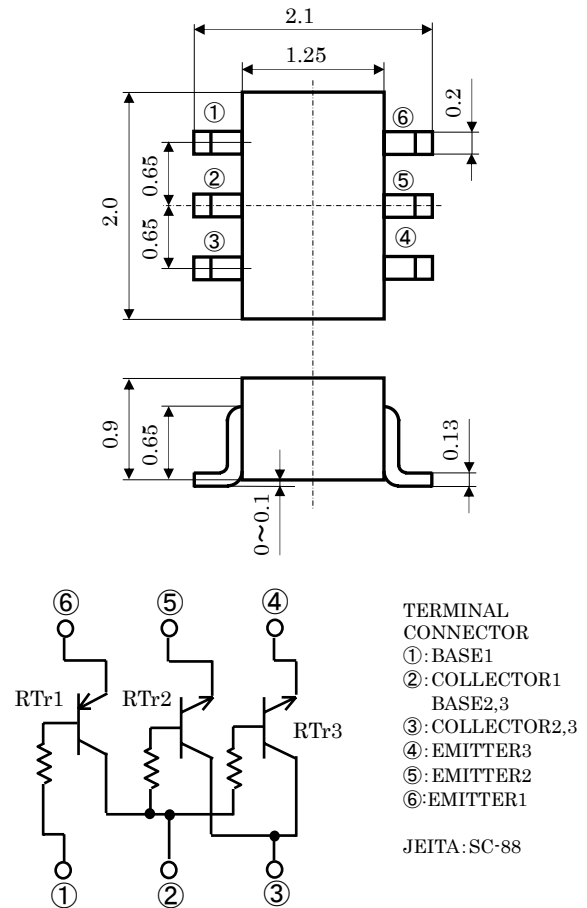
- RT3Y97M is built in RTr1 side RT1P140, and RTr2, RTr3 side composite muting transistor with resistor.
- Built-in bias resistor RTr1:R1=10k $\Omega$  RTr2, RTr3:R1=2.2k $\Omega$
- Mini package for easy mounting

## APPLICATION

muting circuit, switching circuit

## OUTLINE DRAWING

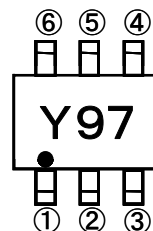
Unit: mm



## MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RTr1 RATING	RTr2, RTr3 RATING	UNIT
VCBO	Collector to Base voltage	-9	40	V
VEBO	Emitter to Base voltage	-50	40	V
VCEO	Collector to Emitter voltage	-9	15	V
IC	Collector current	-100	200	mA
PC(Total)	Collector dissipation (Ta=25°C)	150		mW
Tj	Junction temperature	+150		°C
Tstg	Storage temperature	-55~+150		°C

## MARKING



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## Electrical characteristics (Ta=25°C) (RTr1side)

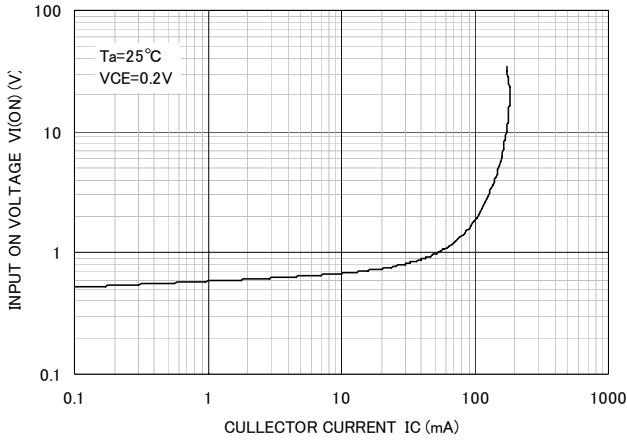
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V <sub>CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =-50 μA, I <sub>E</sub> =0mA	-9			V
V <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-50 μA, I <sub>C</sub> =0mA	-50			V
V <sub>CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-1mA, R <sub>BE</sub> =∞	-9			V
I <sub>CBO</sub>	Collector cutoff current	V <sub>CB</sub> =-6V, I <sub>E</sub> =0mA			-0.1	μA
I <sub>EBO</sub>	Emitter cutoff current	V <sub>EB</sub> =-50V, I <sub>C</sub> =0mA			-0.1	μA
h <sub>FE</sub>	DC current transfer ratio	V <sub>CE</sub> =-5V, I <sub>C</sub> =-1mA		10		-
R <sub>I</sub>	Input resistance	-		10		KΩ

## Electrical characteristics (Ta=25°C) (RTr2,RTr3 common)

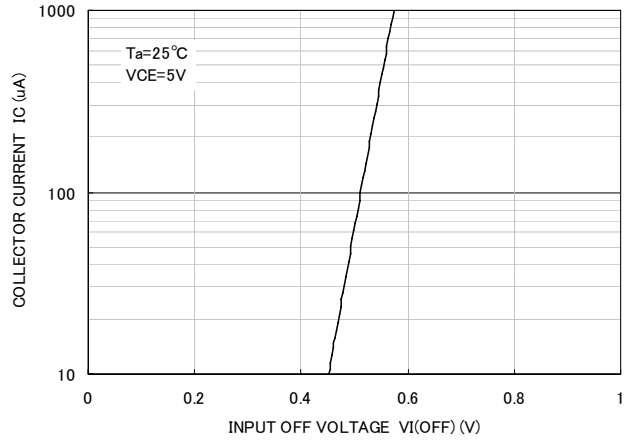
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V <sub>CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =50 μA, I <sub>E</sub> =0mA	40			V
V <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50 μA, I <sub>C</sub> =0mA	40			V
V <sub>CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	15			V
I <sub>CBO</sub>	Collector cutoff current	V <sub>CB</sub> =40V, I <sub>E</sub> =0mA			0.5	μA
I <sub>EBO</sub>	Emitter cutoff current	V <sub>EB</sub> =40V, I <sub>C</sub> =0mA			0.5	μA
h <sub>FE</sub>	DC current transfer ratio	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	820		2500	-
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =50mA, I <sub>E</sub> =5mA			100	mV
R <sub>I</sub>	Input resistance	-		2.2		KΩ
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> =6V, I <sub>E</sub> =-10mA		60		MHz
R <sub>on</sub>	Output On-resistance	V <sub>IN</sub> =3V, f=1MHz		1.6		Ω

TYPICAL CHARACTERISTICS (RT<sub>r2</sub>,RT<sub>r3</sub>)

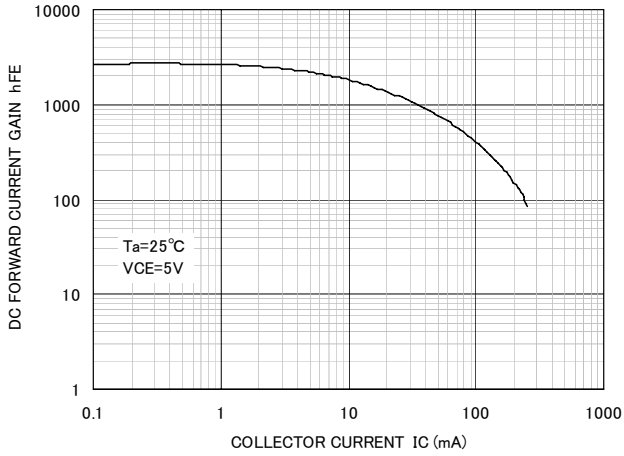
INPUT ON VOLTAGE  
VS. COLLECTOR CURRENT



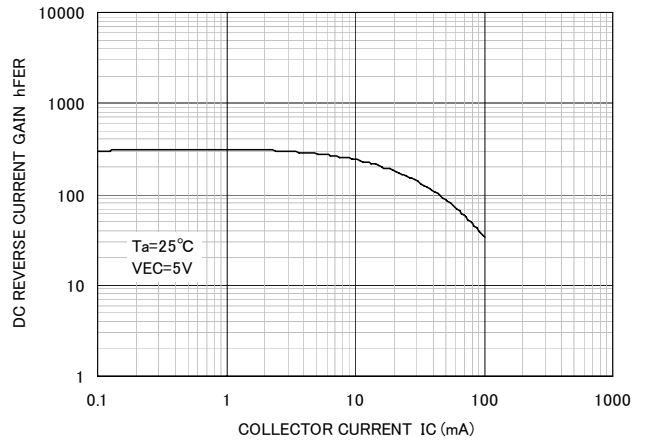
COLLECTOR CURRENT  
VS. INPUT OFF VOLTAGE



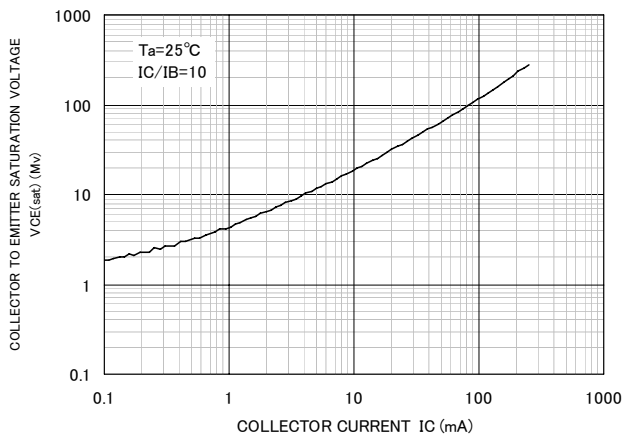
DC FORWARD CURRENT GAIN  
VS. COLLECTOR CURRENT



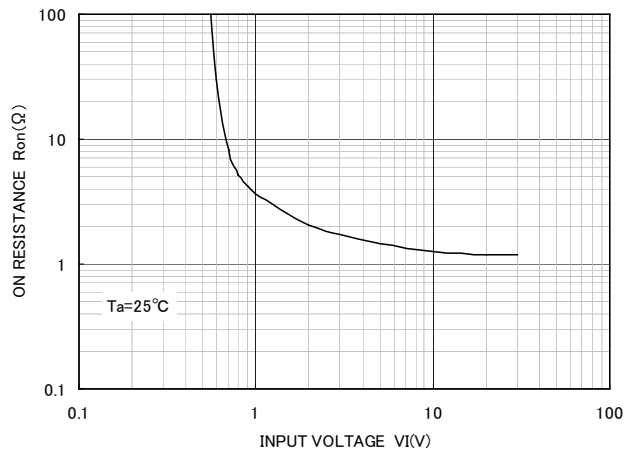
DC REVERSE CURRENT GAIN  
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE  
VS. COLLECTOR CURRENT



ON RESISTANCE  
VS. INPUT VOLTAGE





*Marketing division, Marketing planning department*

6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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