

# RTAN230X SERIES

Transistor With Resistor  
For Muting Application  
Silicon NPN Epitaxial Type

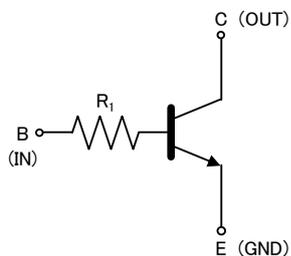
## FEATURE

- Built-in bias resistor ( $R_1=2.2k\Omega$ ).
- Small package for easy mounting.
- High reverse  $h_{FE}$ .
- Small collector to emitter saturation voltage.  
 $V_{CE(sat)}=10mV_{(TYP.)}$  ( $@I_C=10mA/I_B=0.5mA$ )
- Low on Resistor.  
 $R_{ON}=0.70\Omega_{(TYP.)}$  ( $@V_I=5V$ )

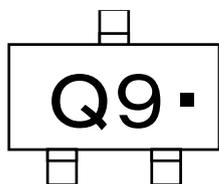
## APPLICATION

muting circuit, switching circuit

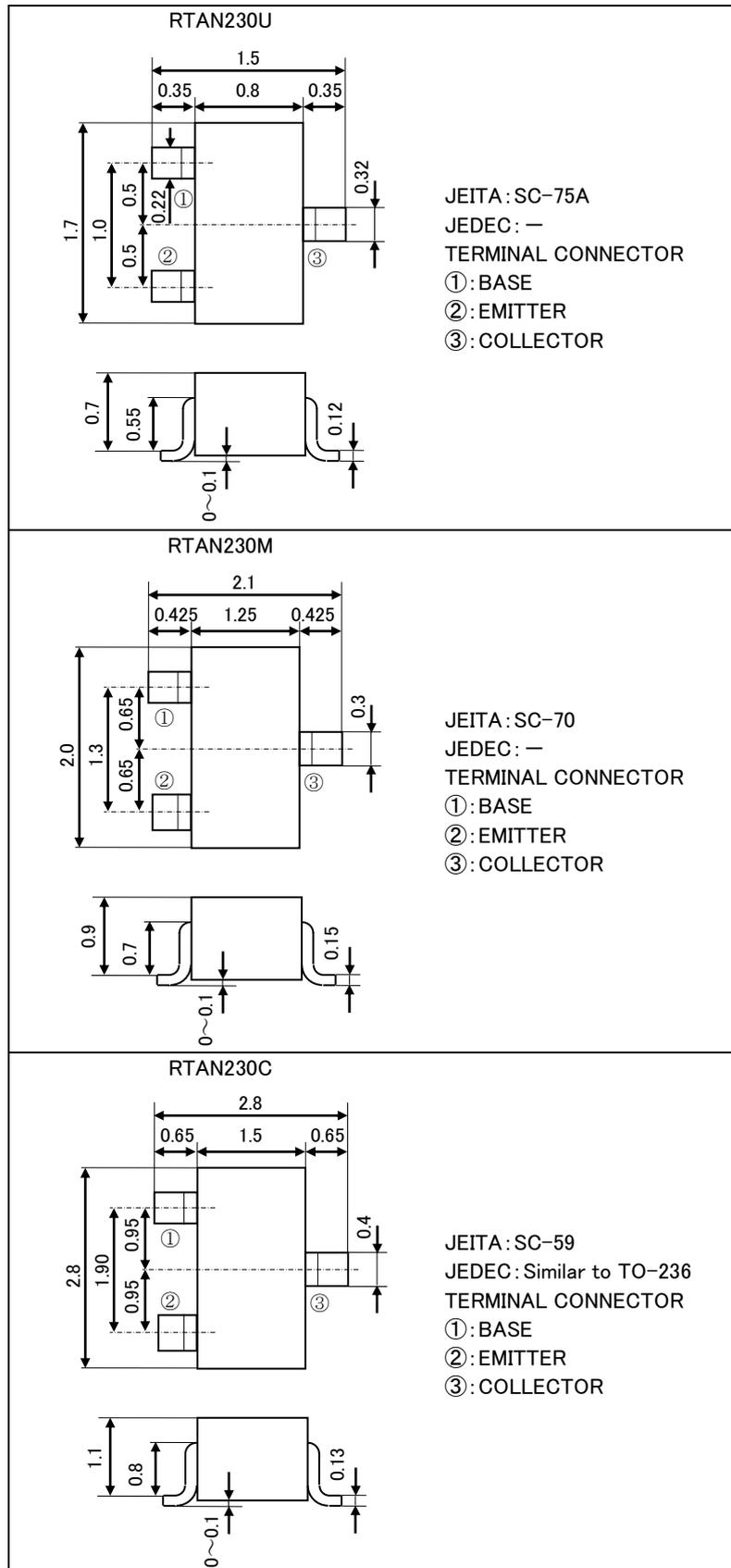
### EQUIVALENT CIRCUIT



### MARKING



## OUTLINE DRAWING (Unit : mm)



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## MAXIMUM RATING (Ta=25°C)

PARAMETER	SYMBOL	RATING			UNIT
		RTAN230U	RTAN230M	RTAN230C	
Collector to Base voltage	$V_{CBO}$	40			V
Emitter to Base voltage	$V_{EBO}$	40			V
Collector to Emitter voltage	$V_{CEO}$	20			V
Collector current	$I_C$	400			mA
Collector dissipation	$P_C$	150	200		mW
Junction temperature	$T_j$	+150			°C
Storage temperature	$T_{stg}$	-55~+150			°C

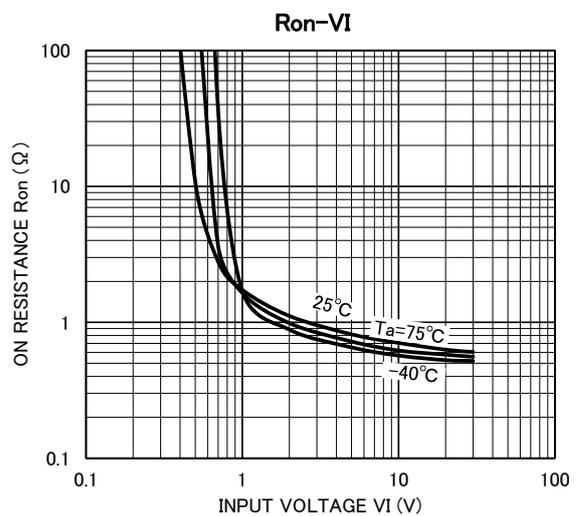
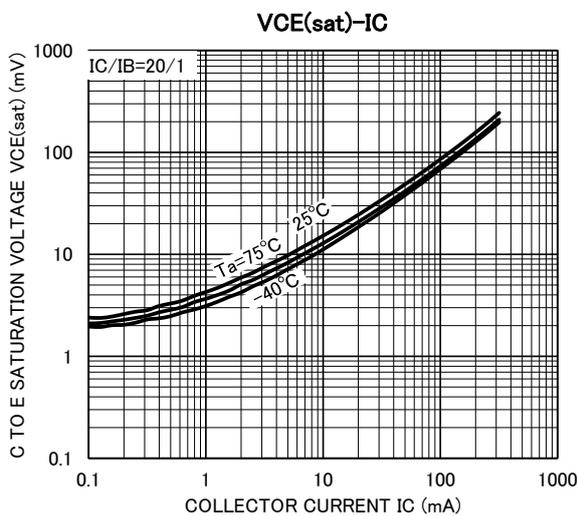
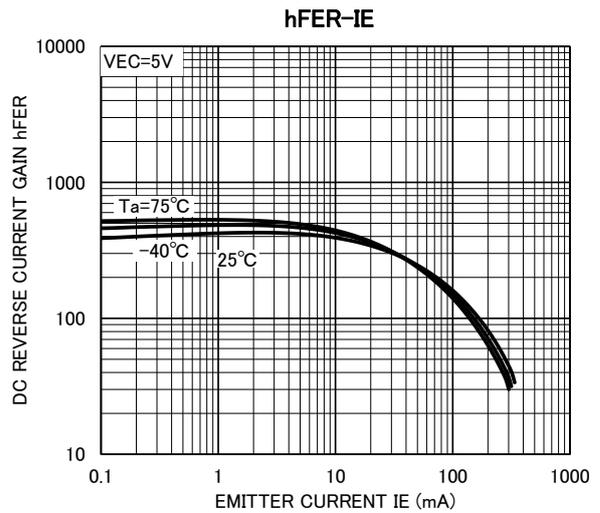
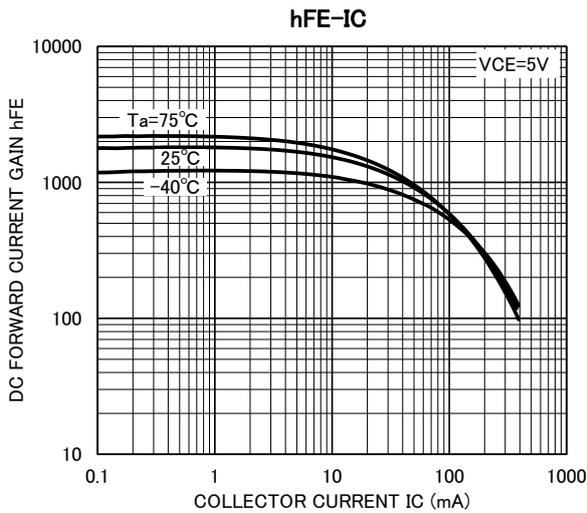
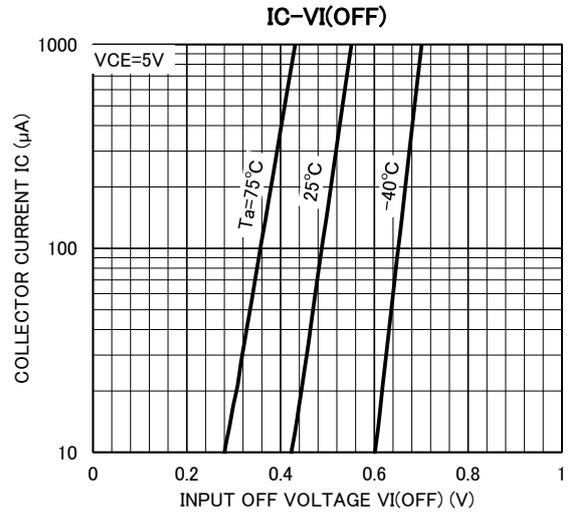
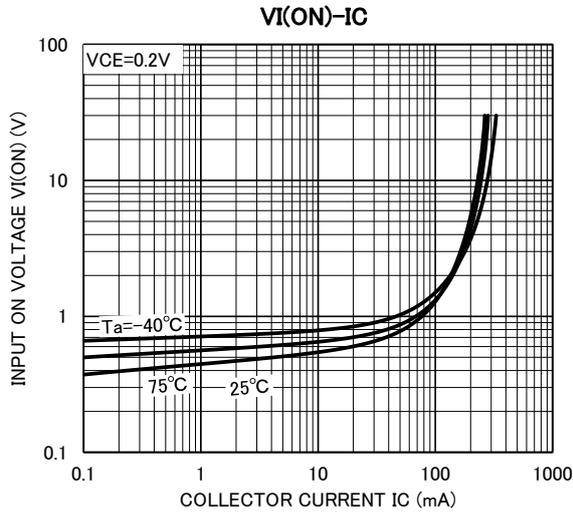
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
C to B breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0mA$	40	-	-	V
E to B breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0mA$	40	-	-	V
C to E breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	20	-	-	V
Collector cut off current	$I_{CBO}$	$V_{CB}=40V, I_E=0mA$	-	-	0.5	$\mu A$
Emitter cut off current	$I_{EBO}$	$V_{EB}=40V, I_C=0mA$	-	-	0.5	$\mu A$
DC forward current gain	$h_{FE}$	$V_{CE}=5V, I_C=10mA$	820	-	2500	-
C to E saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$	-	10	-	mV
Input resistor	$R_1$	-	1.54	2.2	2.86	k $\Omega$
Gain band width product	$f_T$	$V_{CE}=10V, I_E=-10mA, f=100MHz$	-	40	-	MHz
Output "ON" resistor	$R_{ON}$	$V_i=5V, R_L=1k\Omega$	-	0.70	-	$\Omega$

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## TYPICAL CHARACTERISTICS



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**Keep safety first in your circuit designs!**

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