

RTAN230X SERIES

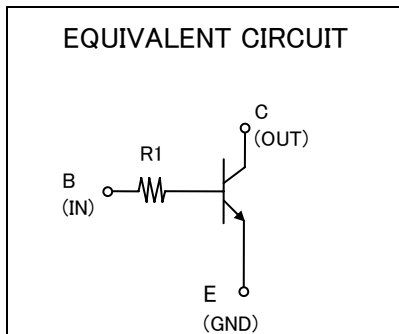
TRANSISTOR WITH RESISTOR
FOR MUTING APPLICATION
SILICON NPN EPITAXIAL TYPE

FEATURE

- Built-in bias resistor ($R1=2.2k\Omega$)
- Small package for easy mounting.
- High reverse hFE
- Small collector to emitter saturation voltage.
 $V_{CE(sat)}=10mV(TYP.)(@I_C=10mA/I_B=0.5mA)$
- Low on Resistance
 $R_{on}=0.70\Omega(TYP.)(@V_I=5V)$

APPLICATION

muting circuit, switching circuit



OUTLINE DRAWING

Unit : mm

RTAN230T2 (PRELIMINARY)	RTAN230M
<p>JEITA, JEDEC: — ISAHAYA: T-USM</p> <p>TERMINAL CONNECTOR ①: BASE ②: EMITTER ③: COLLECTOR</p>	<p>JEITA: SC-70 JEDEC: —</p> <p>TERMINAL CONNECTOR ①: BASE ②: EMITTER ③: COLLECTOR</p>
<p>JEITA: SC-75A JEDEC: —</p> <p>TERMINAL CONNECTOR ①: BASE ②: EMITTER ③: COLLECTOR</p>	<p>JEITA: SC-59 JEDEC: Similar to TO-236</p> <p>TERMINAL CONNECTOR ①: BASE ②: EMITTER ③: COLLECTOR</p>

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TRANSISTOR WITH RESISTOR
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SILICON NPN EPITAXIAL TYPE

MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING				UNIT
		RTAN230T2	RTAN230U	RTAN230M	RTAN230C	
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 (Ta=25°C)	125(※)	150	200		mW
T _j	Junction temperature	+125	+150			°C
T _{stg}	Storage temperature	-55~+125		-55~+150		°C

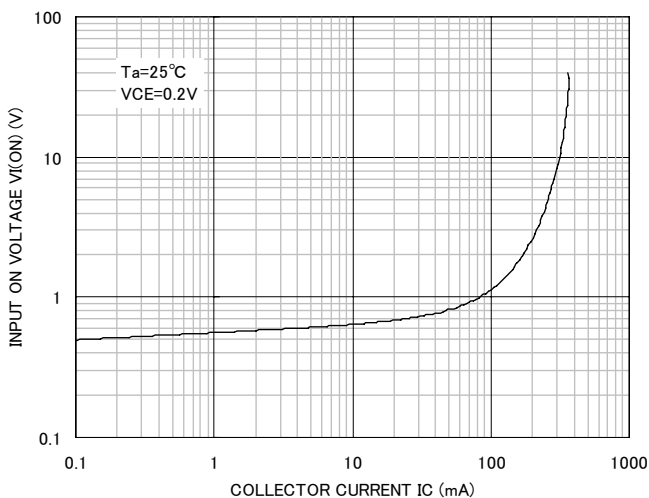
ELECTRICAL CHARACTERISTICS (Ta=25°C)

※package mounted on 9mm × 19mm × 1mm glass-epoxy substrate.

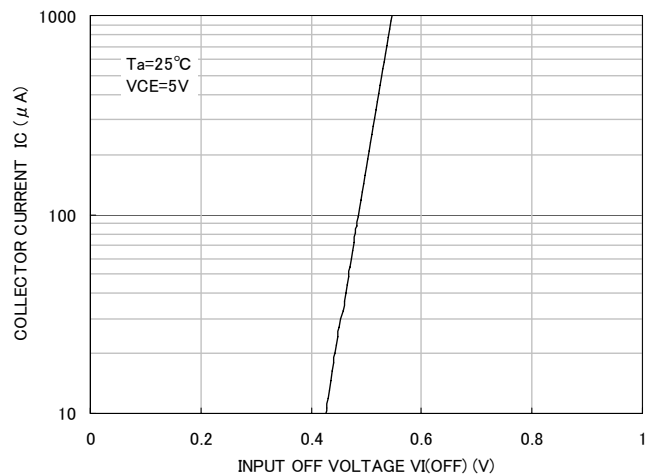
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
V _{(BR)CBO}	C to B break down voltage	I _C =50 μA, I _E =0mA	40			V
V _{(BR)EBO}	E to B break down voltage	I _E =50 μA, I _C =0mA	40			V
V _{(BR)CEO}	C to E break down voltage	I _C =1mA, R _{BE} =∞	20			V
I _{CBO}	Collector cut off current	V _{CB} =40V, I _E =0mA			0.5	μA
I _{EBO}	Emitter cut off current	V _{EB} =40V, I _C =0mA			0.5	μA
h _{FE}	DC forward current gain	V _{CE} =5V, I _C =10mA	820		2500	—
V _{CE(sat)}	C to E saturation voltage	I _C =10mA, I _B =0.5mA		10		mV
R ₁	Input resistance		1.54	2.2	2.86	kΩ
f _T	Gain band width product	V _{CE} =10V, I _E =-10mA, f=100MHz		40		MHz
R _{ON}	Output "ON" resistance	V _I =5V, R _L =1kΩ		0.70		Ω

TYPICAL CHARACTERISTICS

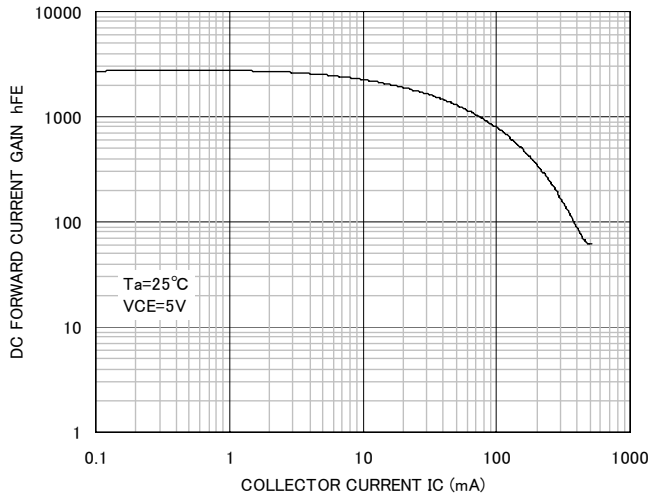
INPUT ON VOLTAGE
VS. COLLECTOR CURRENT



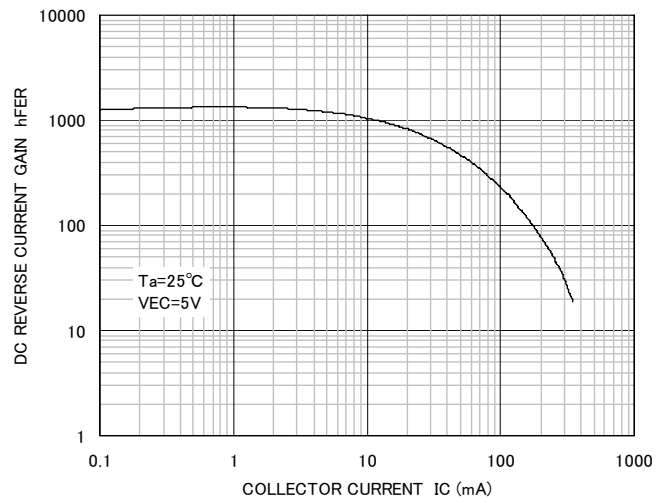
COLLECTOR CURRENT
VS. INPUT OFF VOLTAGE



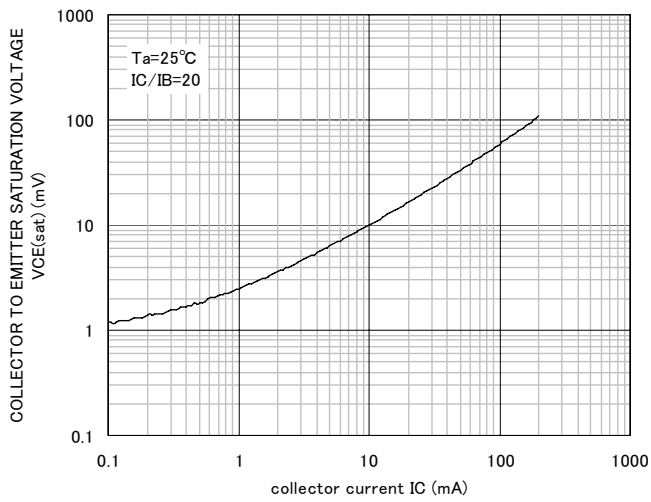
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



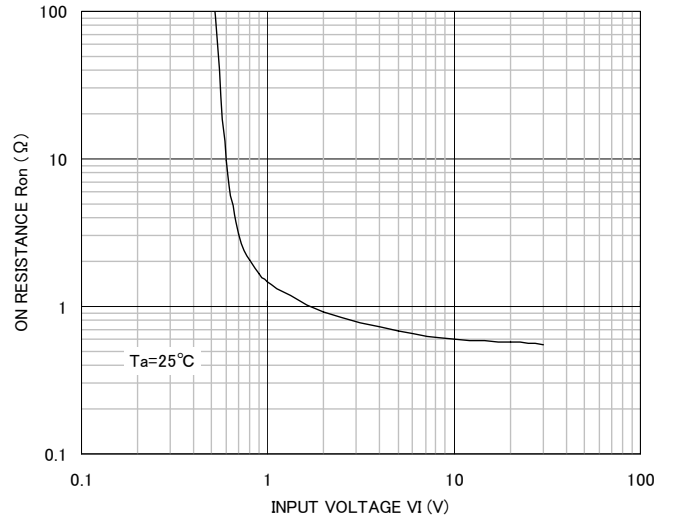
DC REVERSE CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



ON RESISTANCE VS. INPUT VOLTAGE





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