RTAN140X SERIES

TRANSISTOR WITH RESISTOR
FOR MUTING APPLICATION
SILICON NPN EPITAXIAL TYPE

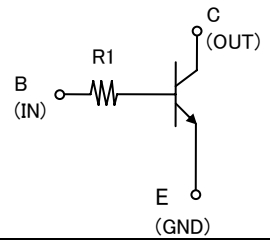
FEATURE

- Built-in bias resistor (R1=10kΩ)
- Small package for easy mounting.
- High reverse hFE
- Small collector to emitter saturation voltage.
  VCE(sat)=10mV(TYP.)(@IC=10mA/IB=0.5mA)
- Low on Resistance
  Ron=0.94Ω(TYP.)(@VI=7V)

APPLICATION

muting circuit , switching circuit

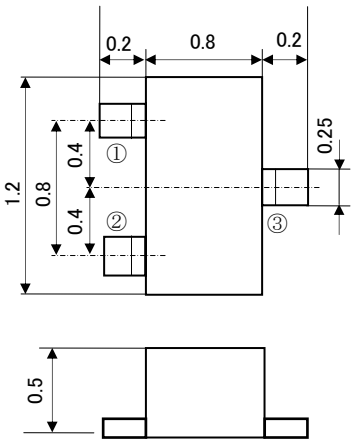
EQUIVALENT CIRCUIT



OUTLINE DRAWING

Unit : mm

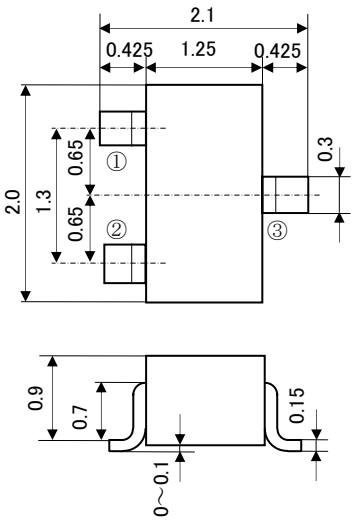
RTAN140T2 (PRELIMINARY)



JEITA, JEDEC : —
ISAHAYA : T-USM

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

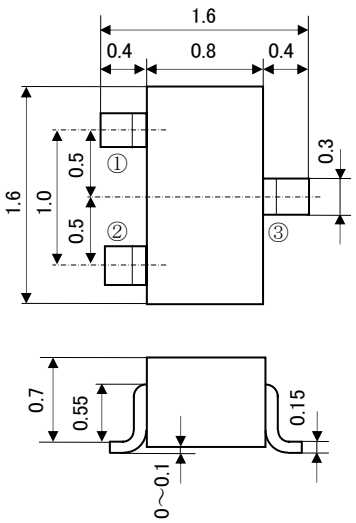
RTAN140M



JEITA : SC-70
JEDEC : —

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

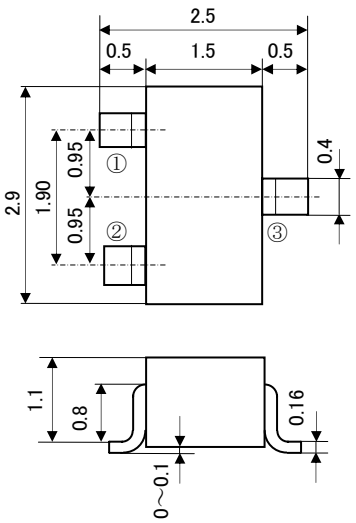
RTAN140U



JEITA : SC-75A
JEDEC : —

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

RTAN140C



JEITA : SC-59
JEDEC : Similar to TO-236

TERMINAL CONNECTOR
①:BASE
②:EMITTER
③:COLLECTOR

RTAN140X SERIES

TRANSISTOR WITH RESISTOR
FOR MUTING APPLICATION
SILICON NPN EPITAXIAL TYPE

MAXIMUM RATING(Ta=25℃)

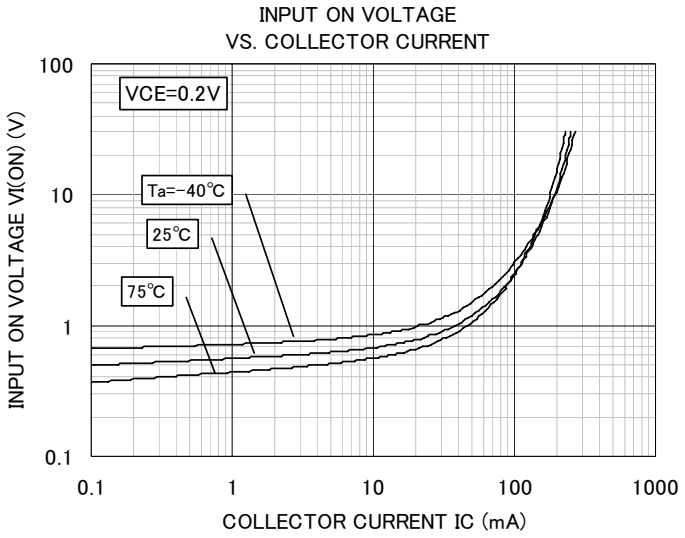
SYMBOL	PARAMETER	RATING				UNIT
		RTAN140T2	RTAN140U	RTAN140M	RTAN140C	
V_{CBO}	Collector to Base voltage	40				V
V_{EBO}	Emitter to Base voltage	40				V
V_{CEO}	Collector to Emitter voltage	20				V
I_C	Collector current	400				mA
P_C	Collector dissipation(Ta=25℃)	125(※)	150	200		mW
Tj	Junction temperature	+125	+150			℃
Tstg	Storage temperature	−55～+125	−55～+150			℃

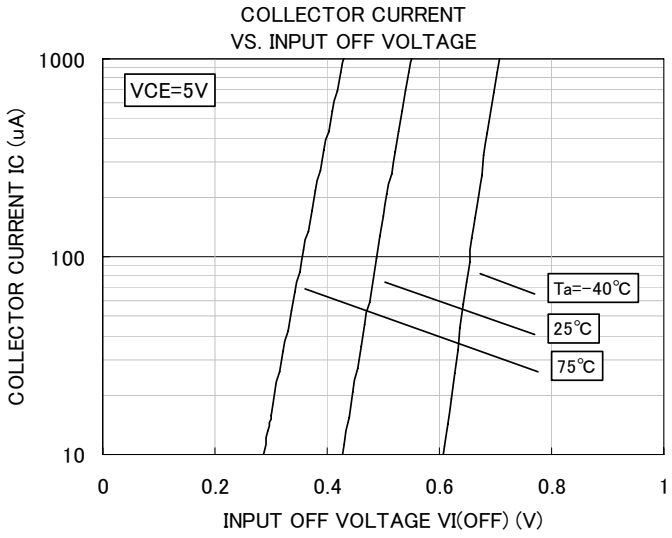
ELECTRICAL CHARACTERISTICS(Ta=25℃)

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

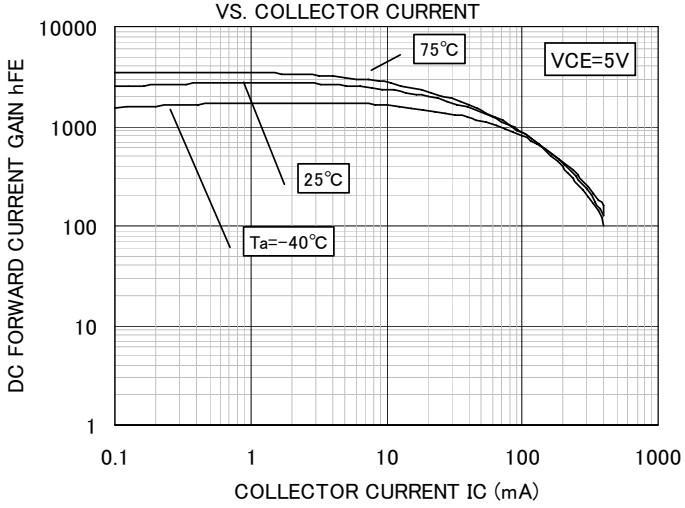
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CBO}$	C to B break down voltage	I_C=50μA, I_E=0mA	40			V
$V_{(BR)EBO}$	E to B break down voltage	I_E=50μA, I_C=0mA	40			V
$V_{(BR)CEO}$	C to E break down voltage	I_C=1mA, R_{BE}=∞	20			V
I_{CBO}	Collector cut off current	V_{CB}=40V, 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		7	10	13	kΩ
f_T	Gain band width product	V_{CE}=10V, I_E=−10mA, f=100MHz		35		MHz
R_{ON}	Output "ON" resistance	V_I=7V, R_L=1kΩ		0.94		Ω

TYPICAL CHARACTERISTICS

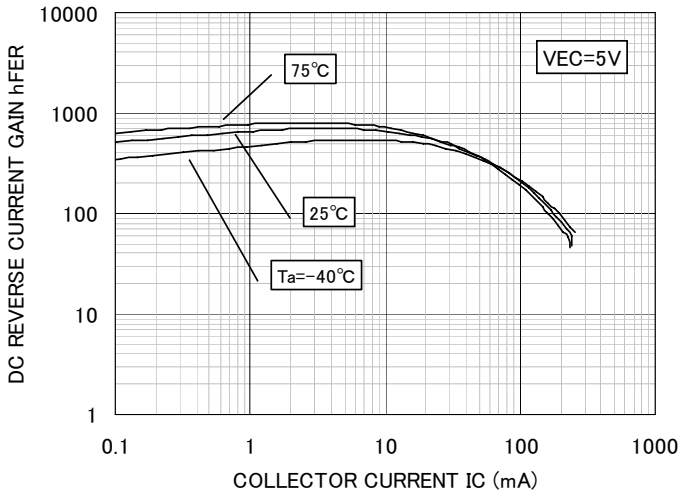




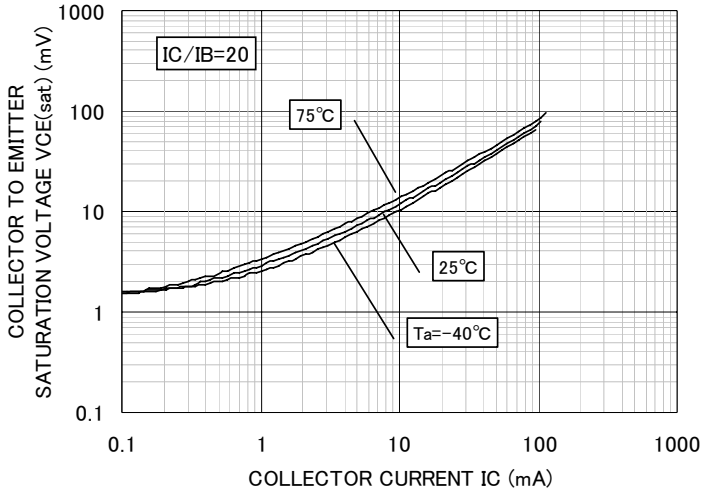
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



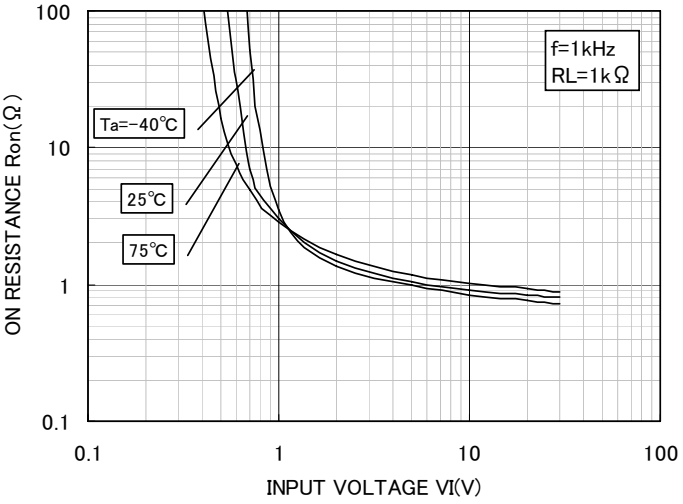
DC REVERSE CURRENT GAIN
VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE
VS. COLLECTOR CURRENT



ON RESISTANCE VS. INPUT VOLTAGE



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Jun.2008