RT1P431X SERIES

Semiconductor
〈Transistor〉

Transistor With Resistor
For Switching Application
Silicon PNP Epitaxial Type

DESCRIPTION

RT1P431X is a one chip transistor with built-in bias resistor,NPN type is RT1N431X.

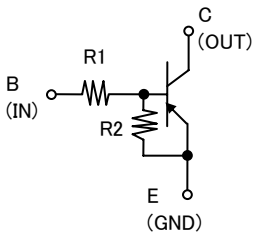
FEATURE

・Built-in bias resistor (R1=4.7kΩ,R2=4.7kΩ).

APPLICATION

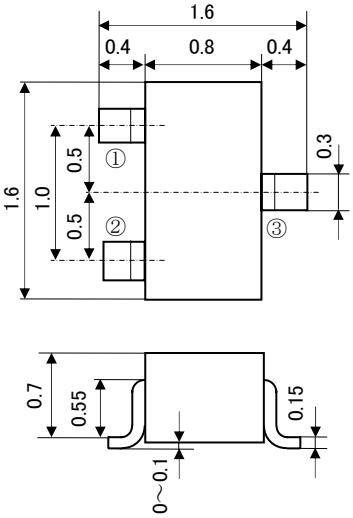
Inverted circuit,switching circuit,interface circuit, driver circuit.

Equivalent circuit



OUTLINE DRAWING UNIT : mm

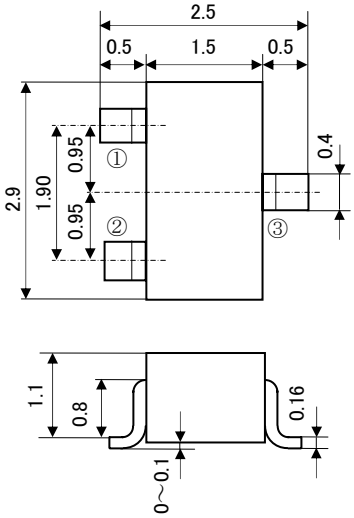
RT1P431U



EIAJ : —
JEDEC : —

Terminal Connector
①:Base
②:Emitter
③:Collector

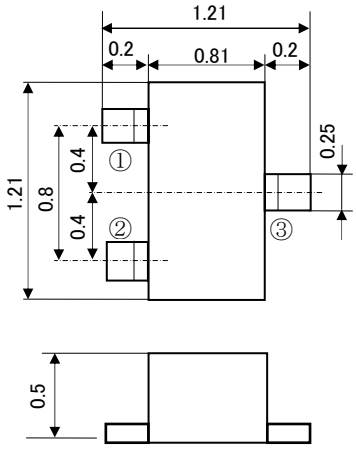
RT1P431C



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

Terminal Connector
①:Base
②:Emitter
③:Collector

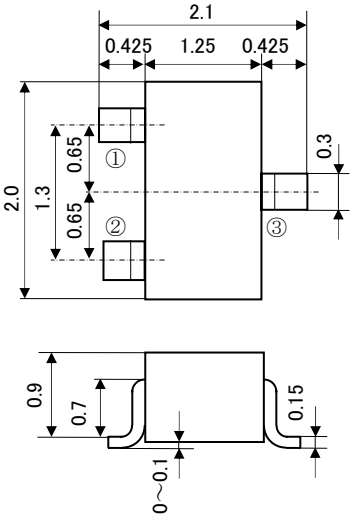
RT1P431T2



JEITA,JEDEC : —
ISAHAYA : T-USM

Terminal Connector
①:Base
②:Emitter
③:Collector

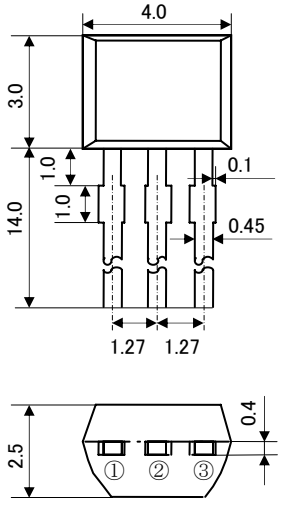
RT1P431M



EIAJ : SC-70
JEDEC : —

Terminal Connector
①:Base
②:Emitter
③:Collector

RT1P431S



EIAJ : —
JEDEC : —

Terminal Connector
①:Emitter
②:Collector
③:Base

RT1P431X SERIES

MITSUBISHI Semiconductor
〈Transistor〉
Transistor With Resistor
For Switching Application
Silicon PNP Epitaxial Type

MAXIMUM RATING (Ta=25℃)

SYMBOL	PARAMETER	RATING					UNIT
		RT1P431T2	RT1P431U	RT1P431M	RT1P431C	RT1P431S	
V_{CBO}	Collector to Base voltage	−50					V
V_{EBO}	Emitter to Base voltage	−10					V
V_{CEO}	Collector to Emitter voltage	−50					V
I_C	Collector current	−100					mA
I_{CM}	Peak Collector current	−200					mA
P_C	Collector dissipation(Ta=25℃)	125(※)	150	200		450	mW
Tj	Junction temperature	+125	+150				℃
Tstg	Storage temperature	−55～+125	−55～+150				℃

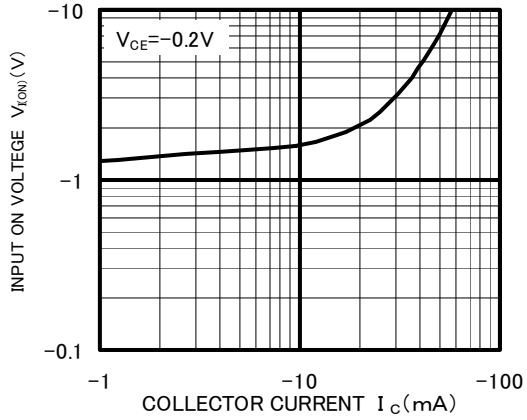
ELECTRICAL CHARACTERISTICS (Ta=25℃)

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

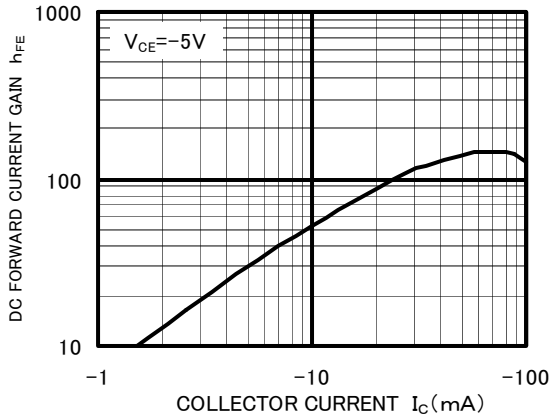
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E break down voltage	I_C=−100μA, R_{BE}=∞	−50			V
I_{CBO}	Collector cut off current	V_{CB}=−50V, I_E=0			−0.1	μA
h_{FE}	DC forward current gain	V_{CE}=−5V, I_C=−10mA	20			—
$V_{CE(sat)}$	C to E saturation voltage	I_C=−10mA, I_B=−0.5mA		−0.1	−0.3	V
$V_{I(ON)}$	Input on voltage	V_{CE}=−0.2V, I_C=−5mA		−1.4	−2.3	V
$V_{I(OFF)}$	Input off voltage	V_{CE}=−5V, I_C=−100μA	−0.8	−1.1		V
R_1	Input resistance		3.3	4.7	6.1	kΩ
R_2/R_1	Resistance ratio		0.8	1.0	1.2	
f_T	Gain band width product	V_{CE}=−6V, I_E=10mA		150		MHz

TYPICAL CHARACTERISTICS

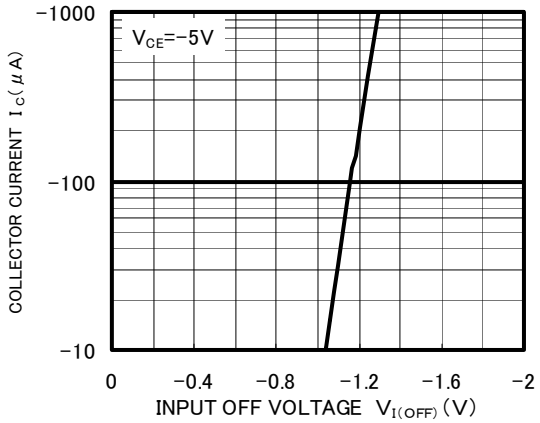
INPUT ON VOLTAGE
VS.COLLECTOR CURRENT



DC FORWARD CURRENT GAIN
VS.COLLECTOR CURRENT



COLLECTOR CURRENT
VS.INPUT OFF VOLTAGE



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