RT3T1CU

Composite Transistor With Resistor
For Switching Application
Silicon Epitaxial Type

DESCRIPTION

RT3T1CU is a composite transistor built with RT1N141 chip and RT1P136 chip in USM6F package.

FEATURE

Silicon epitaxial type

Each transistor elements are independent.

Mini package for easy mounting

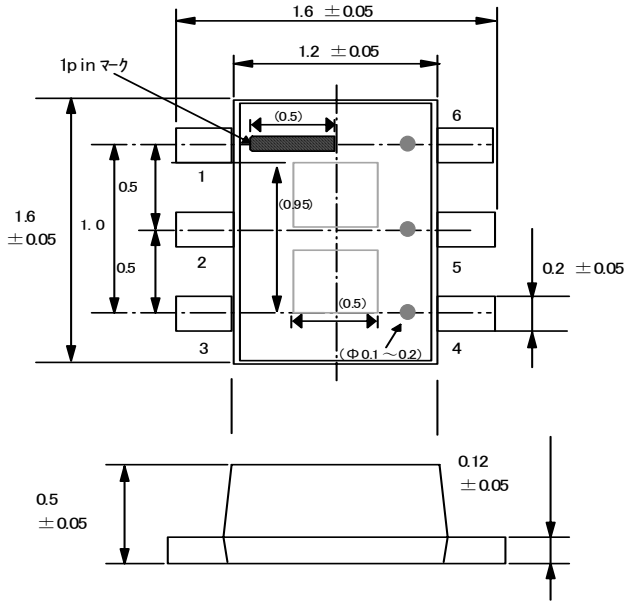
APPLICATION

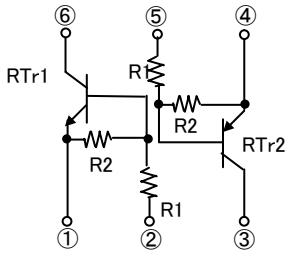
Inverted circuit, switching circuit,
interface circuit, driver circuit

※PNP built in transistor of"−"sign is abbreviation.

OUTLINE DRAWING

Unit:mm





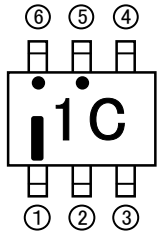
TERMINAL
CONNECTOR
①:EMITTER1
②:BASE1
③:COLLECTOR2
④:EMITTER2
⑤:BASE2
⑥:COLLECTOR1

JEITA:−
ISAHAYA:USM6F

MAXIMUM RATING (Ta=25℃)

SYMBOL	PARAMETER		RATING	UNIT
V_{CBO}	Collector to Base voltage		50	V
V_{EBO}	Emitter to Base voltage	Tr1	10	V
		Tr2	6	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(Total, Ta=25℃)		125	mW
T_j	Junction temperature		+150	℃
T_{stg}	Storage temperature		-55～+150	℃

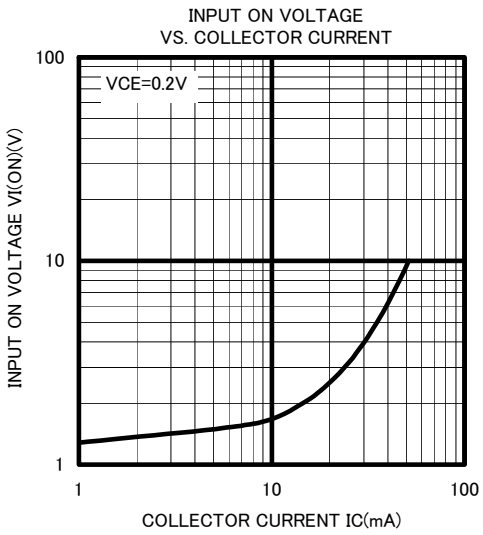
MARKING

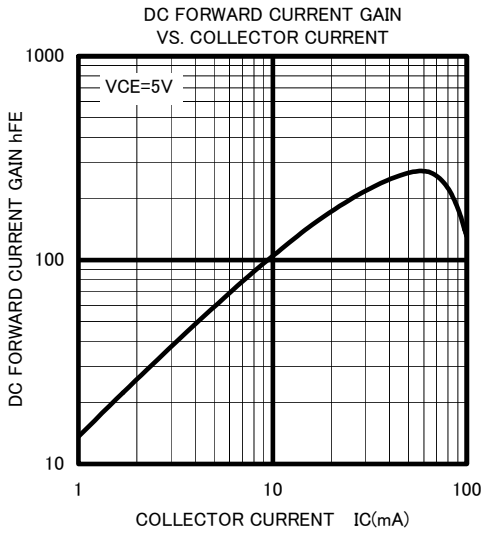


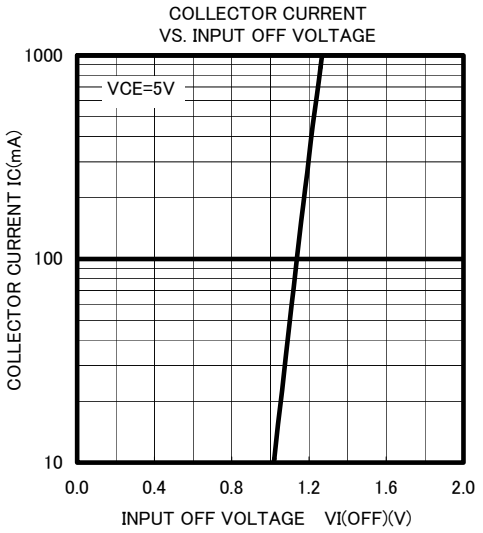
ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test conditions		Limits			Unit
				Min	Typ	Max	
$V_{(BR)CEO}$	Collector to Emitter break down voltage	I_C=100μA, R_{BE}=∞		50			V
I_{CBO}	Collector cut off current	V_{CB}=50V, I_E=0mA				0.1	μA
h_{FE}	DC forward current gain	Tr1	V_{CE}=5V, I_C=10mA	50			-
		Tr2	V_{CE}=5V, I_C=5mA	33			
$V_{CE(sat)}$	Collector to Emitter saturation voltage	Tr1	I_C=10mA,I_B=0. 5mA		0.1	0.3	V
		Tr2				0.3	
$V_{I(ON)}$	Input on voltage	Tr1	V_{CE}=0.2V, I_C=5mA		1.5	3.0	V
		Tr2			0.7	1.2	
$V_{I(OFF)}$	Input off voltage	Tr1	V_{CE}=5V, I_C=100μA	0.8	1.1		V
		Tr2		0.4	0.6		
R_1	Input resistor	Tr1		7.0	10	13	KΩ
		Tr2		0.7	1.0	1.3	
R_2/R_1	Resistor ratio	Tr1		0.9	1.0	1.1	-
		Tr2		8	10	12	
f_T	Gain band width product	Tr1	V_{CE}=6V, I_E=10mA		200		MHz
		Tr2			150		

TYPICAL CHARACTERISTICS (Tr1)

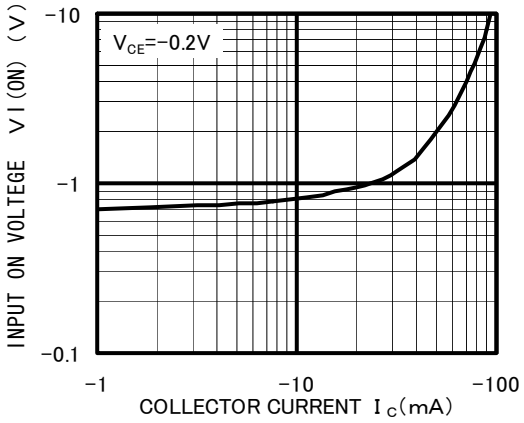




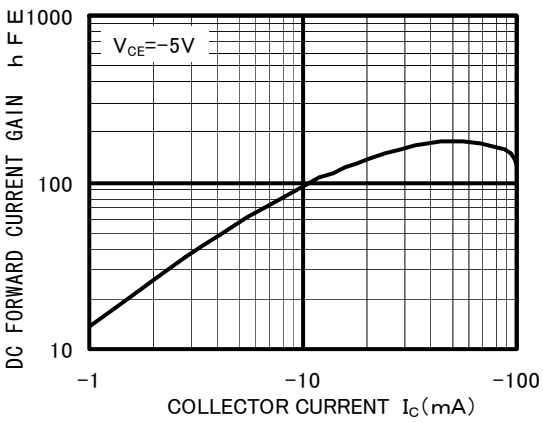


TYPICAL CHARACTERISTICS (Tr2)

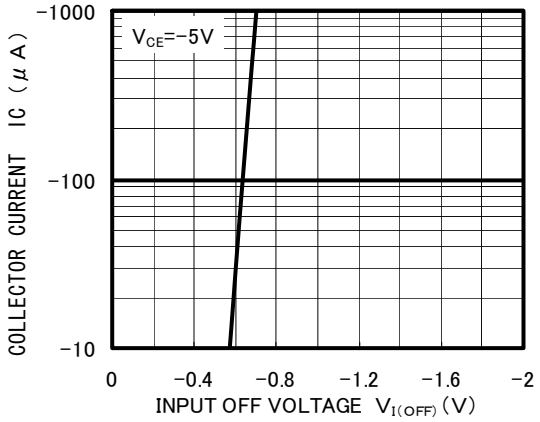
INPUT ON VOLTAGE
VS.COLLECTOR CURRENT



DC FORWARD CURRENT GAIN
VS.COLLECTOR CURRENT



COLLECTOR CURRENT
VS.INPUT OFF VOLTAGE



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