

RT4N631C

TRANSISTOR WITH RESISTOR
FOR MUTING APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

RT4N631C is a silicon NPN epitaxial type transistor. This product is most suitable for muting circuit, switching circuit because of low on resistance, small collector to emitter saturation voltage.

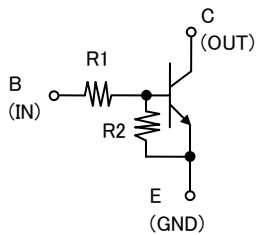
FEATURE

- Small package for easy mounting.
- High reverse hFE
- Small collector to emitter saturation voltage
 $V_{CE(sat)}=40\text{mV(TYP.)}(@I_C=50\text{mA}/I_B=2.5\text{mA})$
- Low on Resistance
 $R_{on}=1.1\ \Omega\text{(TYP.)}(@V_I=7\text{V})$

APPLICATION

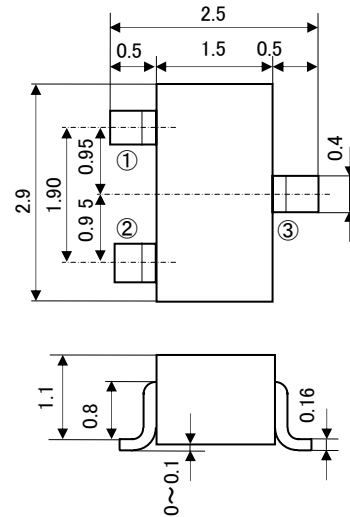
muting circuit, switching circuit

EQUIVALENT CIRCUIT



OUTLINE DRAWING

Unit : mm



JEITA: SC-59

TERMINAL CONNECTOR

- ①: BASE
- ②: EMITTER
- ③: COLLECTOR

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	20	V
V_{EBO}	Emitter to Base voltage	-10 10	V
V_{CEO}	Collector to Emitter voltage	20	V
I_C	Collector current	600	mA
P_C	Peak Collector current	200	mW
T_j	Collector dissipation (Total Ta=25°C)	+150	°C
T_{stg}	Junction temperature	-55~+150	°C

<SMALL-SIGNAL TRANSISITOR>

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ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
C to E break down voltage	V(BR) _{CEO}	I _C =1mA, R _{BE} =∞	20	–	–	V
Collector cut off current	I _{CBO}	V _{CB} =20V, I _E =0mA	–	–	0.5	μA
DC forward current gain	hFE	V _{CE} =5V, I _C =50mA	70	190	–	–
C to E saturation voltage	V _{CE(sat)}	I _C =50mA, I _B =2.5mA	–	40	80	mV
Input on voltage	V _{I(ON)}	V _{CE} =0.3V, I _C =10mA	–	1.5	2.0	V
Input off voltage	V _{I(OFF)}	V _{CE} =5V, I _C =100 μA	0.5	1.0	–	V
Input resistor	R1	–	4.8	6.8	8.8	kΩ
Resistor ratio	R2/R1	–	0.8	1	1.2	–
Gain band width product	fT	V _{CE} =10V, I _E =–20mA, f=100MHz	–	120	–	MHz
Output “ON” resistance	R _{on}	V _I =7V, R _L =1kΩ, f=1MHz	–	1.1	–	Ω



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