PRELIMINARY

Notice:this is not a final specification.
Some parametric limits are subject to change.

RT1C3904-T12

Transistor
For General purpose Application
Silicon NPN Epitaxial Type

RT1C3904 is a one chip transistor.

FEATURE

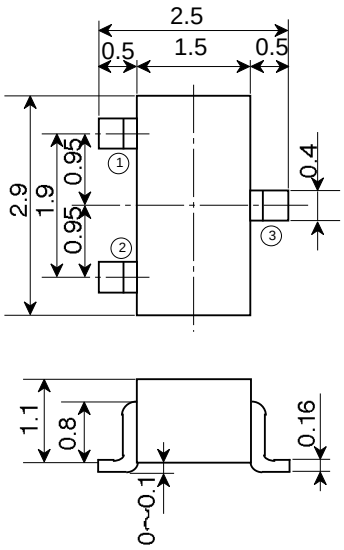
- Mini package for easy mounting.

APPLICATION

General purpose transistor

OUTLINE DRAWING

UNIT:mm



Terminal Connector

① : Base
② : Emitter
③ : Collector

EIAJ : SC-59
JEDEC : TO-236 resemblance

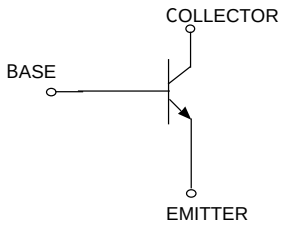
MAXIMUM RATINGS (Ta=25℃)

SYMBOL	PARAMETER	RATINGS	UNIT
V_{CEO}	Collector to Emitter voltage	40	V
V_{CBO}	Collector to Base voltage	60	V
V_{EBO}	Emitter to Base voltage	6.0	V
I_C	Collector current	200	mA

THERMAL CHARACTERISTICS

SYMBOL	Characteristics	RATINGS	UNIT
P_D	Total Device Dissipation Glass-Epoxi Board(1) Ta=25℃	225	mW
	Derate Adove 25℃	1.8	mW/℃
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	556	℃/mW
P_D	Total Device Dissipation Alumina Substrate(2)Ta=25℃	300	mW
	Derate Adove 25℃	2.4	mW/℃
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	417	℃/mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	-55 to +150	℃

Equivalent Circuit



ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise noted)

SYMBOL	PARAMETER	TESTCONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E break down voltage(3)	I_C=1.0mA, I_B=0	40			V
$V_{(BR)CBO}$	C to B break down voltage	I_C=10μA, I_E=0	60			V
$V_{(BR)EBO}$	E to B break down voltage	I_C=10μA, I_C=0	6			V
I_{BL}	Base cut off current	V_{CE}=30V, V_{EB}=3.0V			50	nA
I_{CEX}	Collector cut off current	V_{CE}=30V, V_{EB}=3.0V			50	nA

1.Glass-Epoxi=1.0×0.75×3.2in
2.Alumina=0.4×0.3×3.2 in
3.Pulse test

RT1C3904-T12

Transistor
For General purpose Application
Silicon NPN Epitaxial Type

SYMBOL	PARAMETER	TESTCONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
h_{FE}	DC current gain	I_C=0.1mA, V_{CE}=1.0V	40		—	
		I_C=1.0mA, V_{CE}=1.0V	70		—	
		I_C=10mA, V_{CE}=1.0V	100		300	
		I_C=50mA, V_{CE}=1.0V	60		—	
		I_C=100mA, V_{CE}=1.0V	30		—	
$V_{CE(sat)}$	Collector-Emitter saturation Voltage	I_C=10mA, I_B=1.0mA	—		0.2	V
		I_C=50mA, I_B=5.0mA	—		0.3	V
$V_{BE(sat)}$	Base-Emitter saturation Voltage	I_C=10mA, I_B=1.0mA	0.65		0.85	V
		I_C=50mA, I_B=5.0mA	—		0.95	V
fT	Current Gain Bandwidth product	I_C=10mA, V_{CE}=20V,f=100MHz	300		—	MHz
Cobo	Output Capacitance	V_{CB}=5V, I_E=0,fT=1.0MHz	—		4.0	pF

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