

(SMALL-SIGNAL TRANSISTOR)

RT1C3904-T112

FOR GENERAL PURPOSE APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

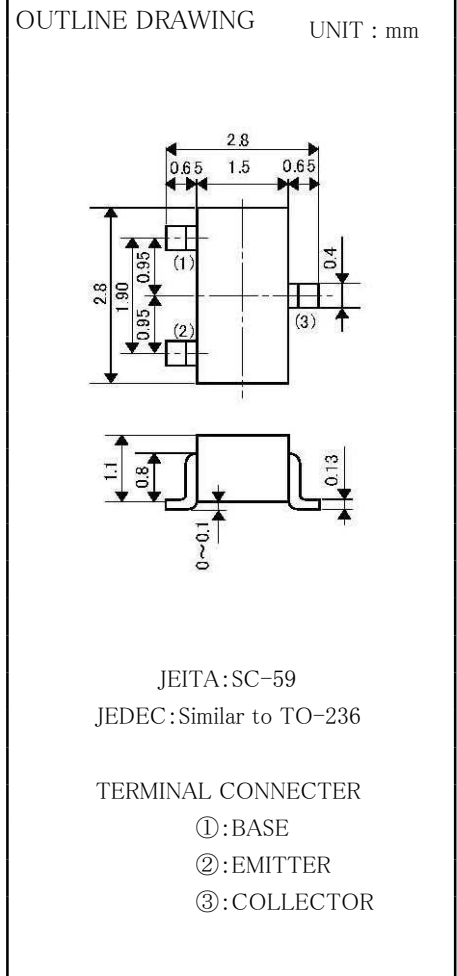
RT1C3904-T112 is a mini package resin sealed silicon NPN epitaxial transistor, It is designed for General purpose application.

FEATURE

■ Super mini package for easy mounting

APPLICATION

General purpose transistor



MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATINGS	UNIT
VCBO	Collector to Base voltage	60	V
VCEO	Collector to Emitter voltage	40	V
VEBO	Emitter to base voltage	6	V
IC	Collector current	200	mA

THERMAL CHARACTERISTICS

SYMBOL	Characteristics	RATINGS	UNIT
PD	Collector dissipation(*1)	225	mW
θ_{ja}	Thermal resistance junction to ambient(*1)	1.8	mW/°C
PD	Collector dissipation(*2)	300	mW
θ_{ja}	Thermal resistance junction to ambient(*2)	2.4	mW/°C
Tj	Junction temperture	150	°C
Tstg	Storage temperture	-55~+150	°C

(*1)Device mounted on Glass epoxy board (25.4×19.1×0.8mm)

(*2)Device mounted on Alumina board (10.2×7.6×0.8mm)

ELECTRICAL CHARACTERISTICS (Ta=25°C)

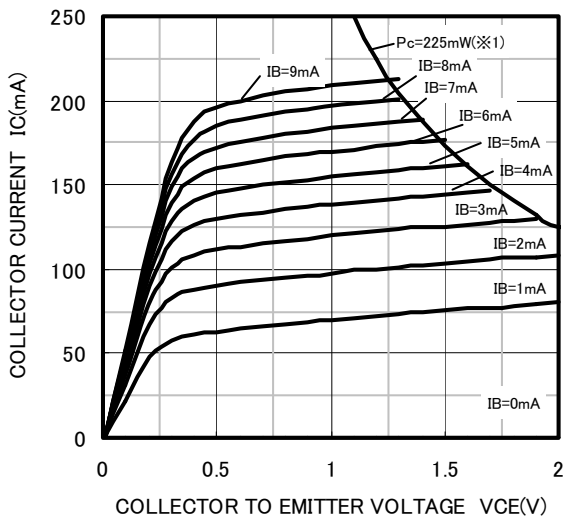
SYMBOL	PARAMETER	TEST CONDITIONS	LIMIT			UNIT
			MIN	TYP	MAX	
VCBO	C to B break down voltage	$I_C=10\mu A, I_E=0mA$	60			V
VCEO	C to E break down voltage	$I_C=1mA, R_{BE}=\infty$	40			V
VEBO	E to B break down voltage	$I_E=10\mu A, I_C=0mA$	6			V
IBL	Base cut off current	$V_{CE}=30V, V_{EB}=3V$			50	nA
ICEX	Collector cut off current	$V_{CE}=30V, V_{EB}=3V$			50	nA

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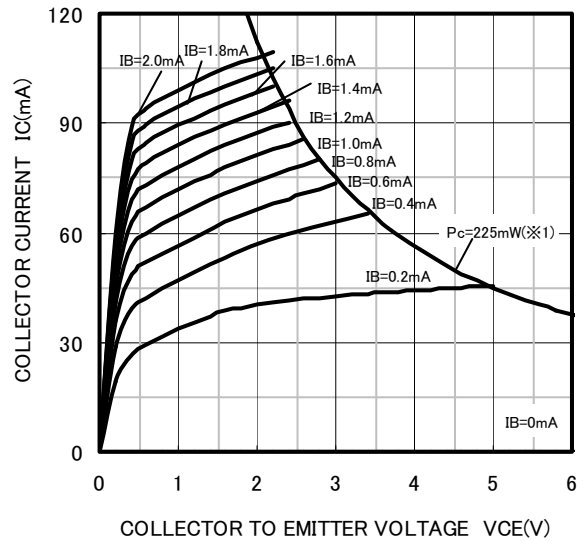
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SYMBOL	PARAMETER	TEST CONDITIONS	LIMIT			UNIT
			MIN	TYP	MAX	
hFE	DC current gain	$V_{CE}=1V, I_C=0.1mA$	40		-	
		$V_{CE}=1V, I_C=1.0mA$	70		-	
		$V_{CE}=1V, I_C=10mA$	100		300	
		$V_{CE}=1V, I_C=50mA$	60		-	
		$V_{CE}=1V, I_C=100mA$	30		-	
VCE(sat)	Collector-Emitter saturation Voltage	$I_C=10mA, I_B=1mA$	-		0.2	V
		$I_C=50mA, I_B=5mA$	-		0.3	
VCE(sat)	Base-Emitter saturation Voltage	$I_C=10mA, I_B=1mA$	0.65		0.85	V
		$I_C=50mA, I_B=5mA$	-		0.95	
fT	Current gain bandwidth product	$I_E=-10mA, V_{CE}=20V, f=100MHz$	300		-	MHz
Cob	Output capacitance	$V_{CB}=5V, I_E=0mA, f=1MHz$	-		4.0	pF

COMMON EMITTER OUTPUT



COMMON EMITTER OUTPUT

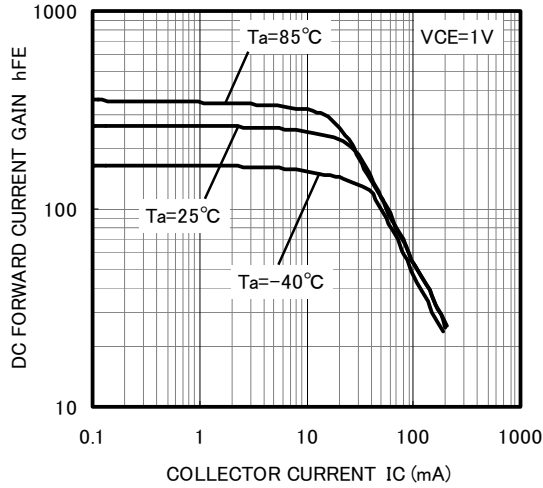


(※1) Device mounted on Glass epoxy board. (25.4 × 19.1 × 0.8mm)

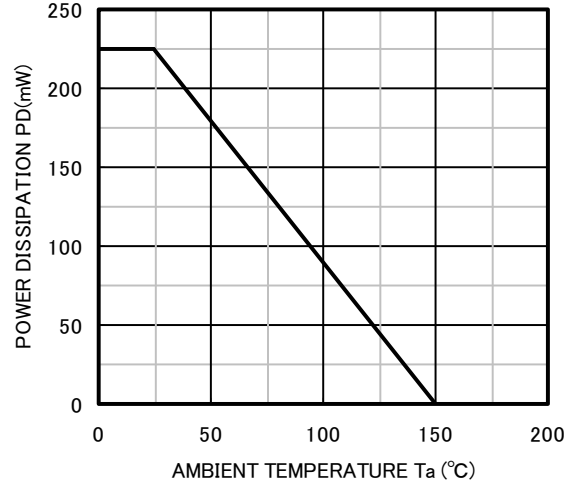
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FOR GENERAL PURPOSE APPLICATION
SILICON NPN EPITAXIAL TYPE

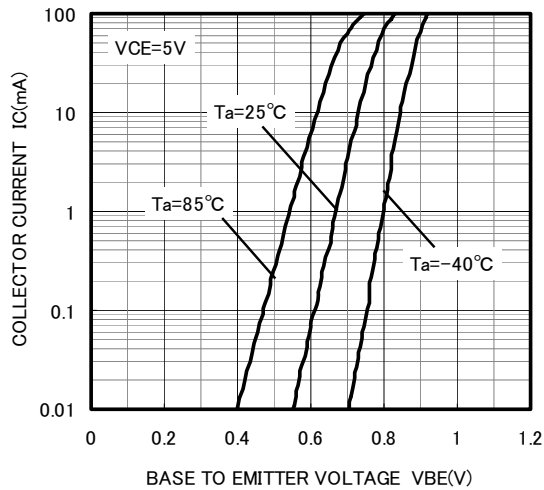
DC FORWARD CURRENT GAIN VS.
COLLECTOR CURRENT



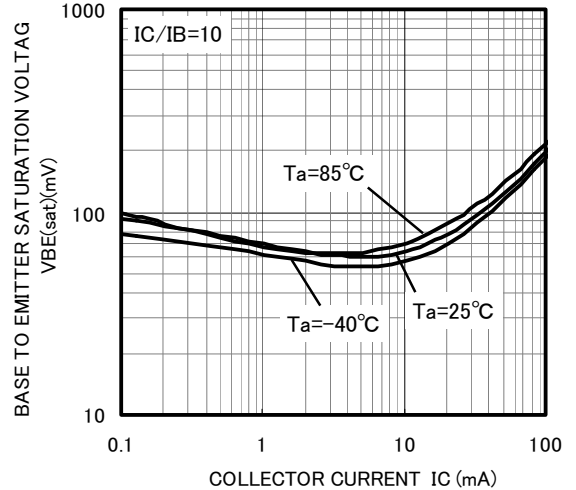
POWER DISSIPATION VS.
AMBIENT TEMPERATURE



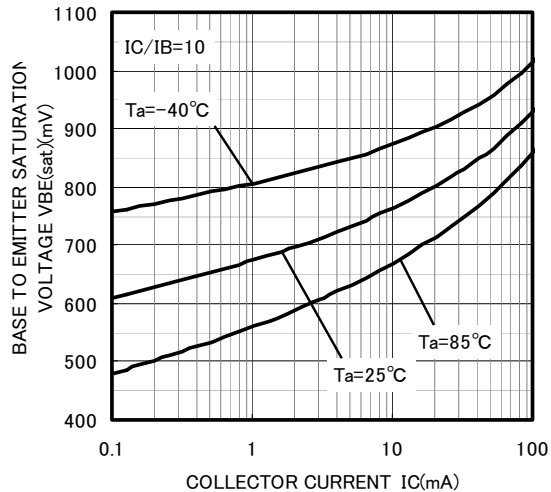
COMMON EMITTER TRANSFER



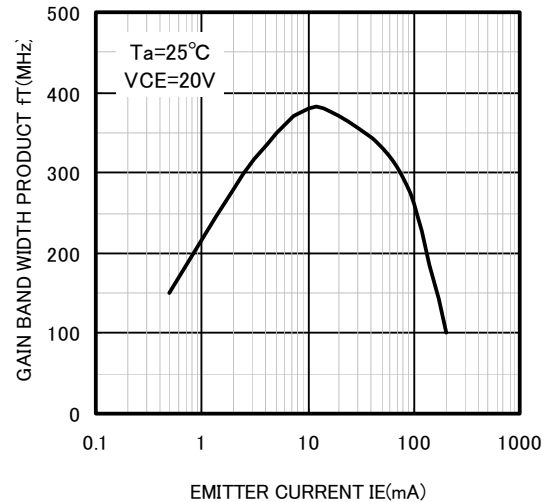
COLLECTOR TO EMITTER SATURATION
VOLTAGE VS. COLLECTOR CURRENT



BASE TO EMITTER SATURATION
VOLTAGE VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS.
EMITTER CURRENT





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