〈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.

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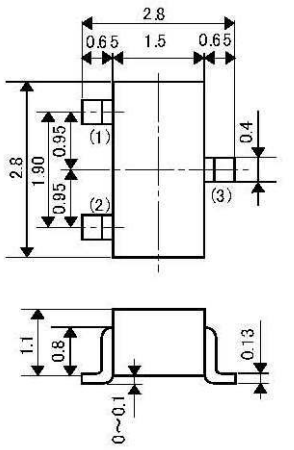
FEATURE

■Super mini package for easy mounting

APPLICATION

General purpose transister

OUTLINE DRAWING UNIT : mm



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

TERMINAL CONNECTER
①:BASE
②:EMITTER
③:COLLECTOR

MAXIMUM RATING (Ta=25℃)

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 1.8	mW mW/℃
θ ja	Thermal resistance junction to ambient(*1)	556	℃/W
PD	Collector dissipation(*2)	300 2.4	mW mW/℃
θ ja	Thermal resistance junction to ambient(*2)	417	℃/W
Tj	Junction temperture	150	℃
Tstg	Storage temperture	-55～+150	℃

(*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℃)

SYMBOL	PARAMETER	TEST CONDITIONS	LIMIT			UNIT
			MIN	TYP	MAX	
VCBO	C to B break down voltage	I_C=10uA,I_E=0mA	60			V
VCEO	C to E break down voltage	I_C=1mA,R_{BE}=∞	40			V
VEBO	E to B break down voltage	I_E=10uA,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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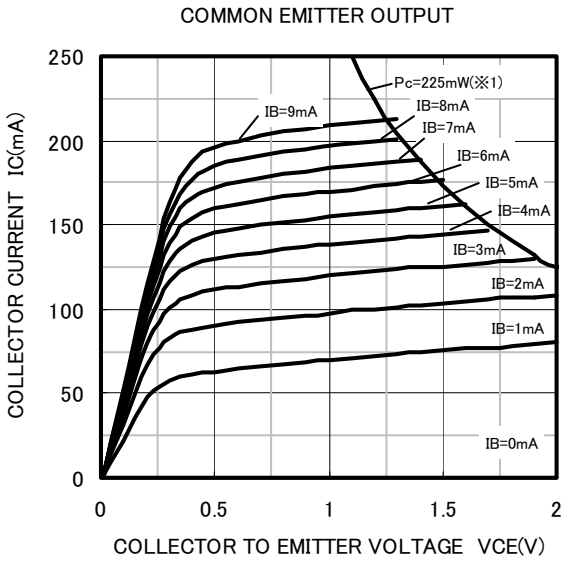
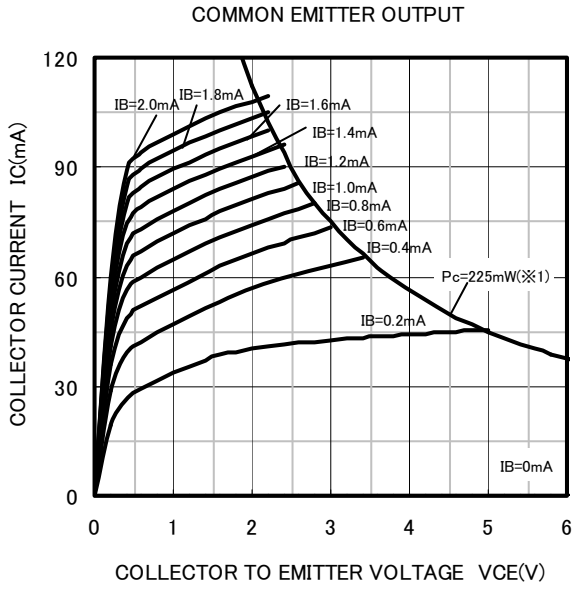
SYMBOL	PARAMETER	TEST CONDITIONS	LIMIT			UNIT
			MIN	TYP	MAX	
hFE	DC current gain	V_{CE}=1V,I_C=0.1mA	40		–	
		V_{CE}=1V,I_C=1.0mA	70		–	
		V_{CE}=1V,I_C=10mA	100		300	
		V_{CE}=1V,I_C=50mA	60		–	
		V_{CE}=1V,I_C=100mA	30		–	
VCE(sat)	Collector-Emitter saturation Voltage	I_C=10mA,I_B=1mA	–		0.2	V
		I_C=50mA,I_B=5mA	–		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





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

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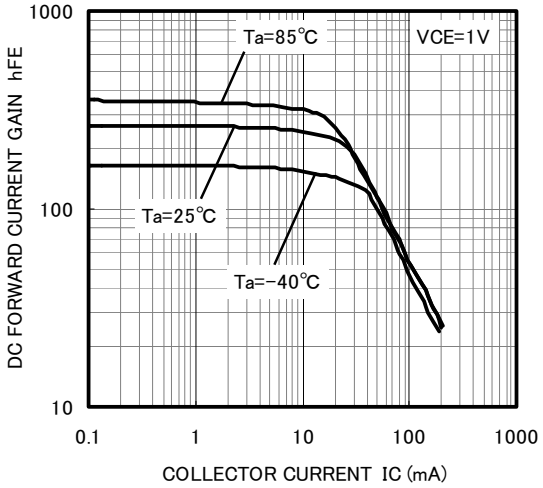
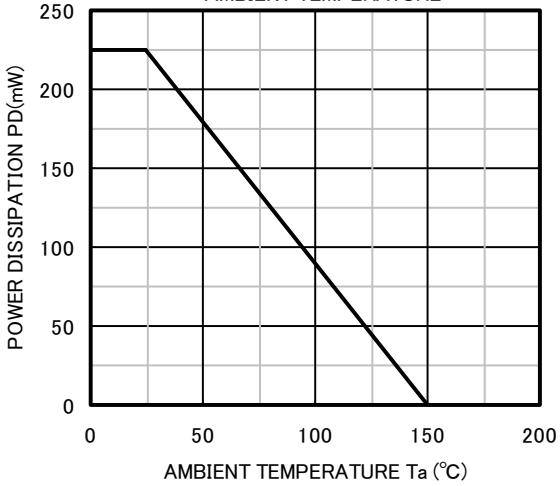
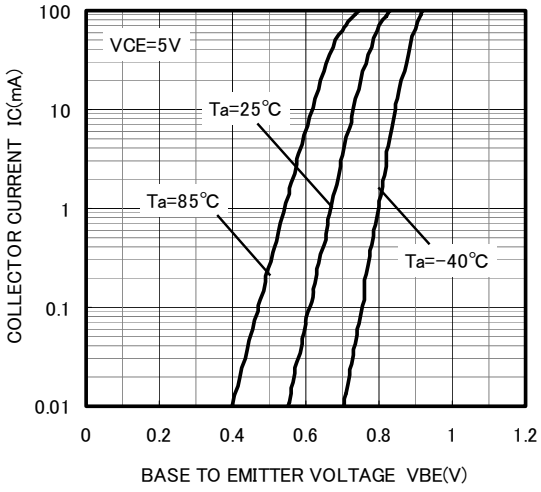
DC FORWARD CURRENT GAIN VS.
COLLECTOR CURRENT



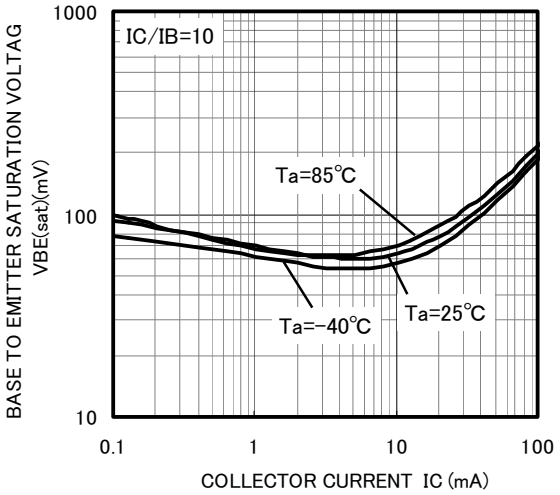
POWER DISSIPATION VS.
AMBIENT TEMPERATURE



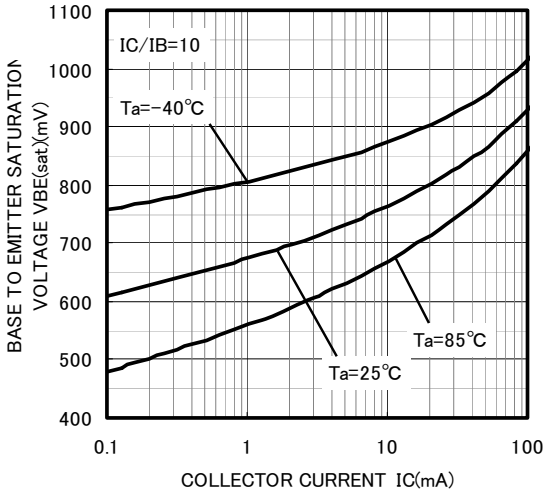
COMMON EMITTER TRANSFER



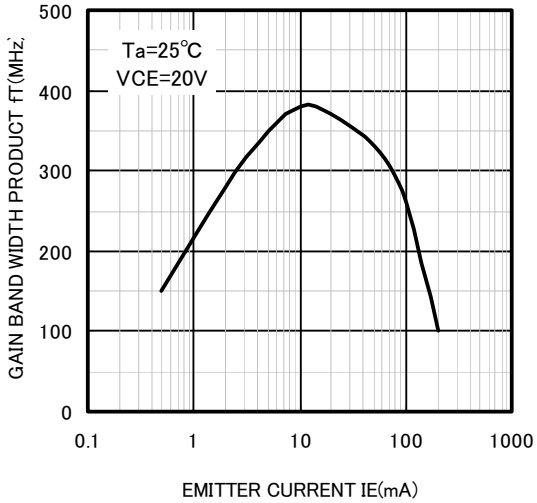
COLLECTOR TO EMITTER SATURATION
VOLTAGE VS. COLLECTOR CURRENT



BASE TO EMITTER SATURATION
VOLTAGE VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS.
EMITTER CURRENT



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