



Approved by:
Checked by:
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SPECIFICATION

PRODUCT: NPN 2.4GHz wideband transistor

MODEL: MAR3120 SOT23

HOPE MICROELECTRONICS CO.,LIMITED

MAR3120

The item can replace **2SC3120**

DESCRIPTION

The MAR3120 is an NPN silicon epitaxial transistor designed for low noise amplifier at VHF, UHF and CATV band .

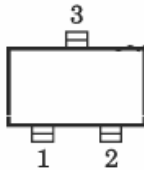
It has large dynamic range and good current characteristic.

FEATURES

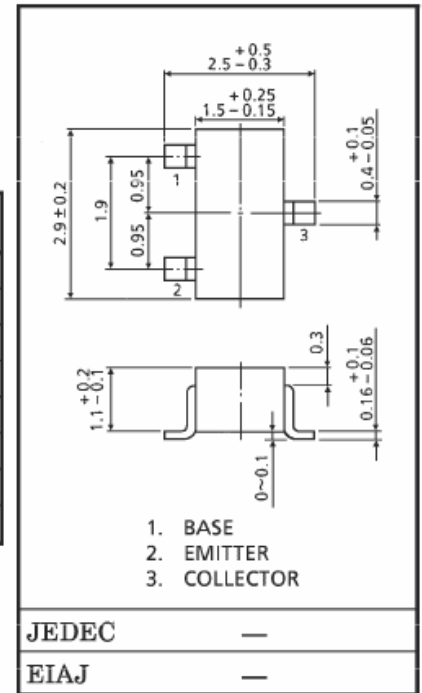
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	30	V
Collector-Emitter Voltage	V _{CEO}	15	V
Emitter-Base Voltage	V _{EB0}	3	V
Collector Current	I _C	50	mA
Base Current	I _B	25	mA
Collector Power Dissipation	P _C	150	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

Marking



Unit in mm



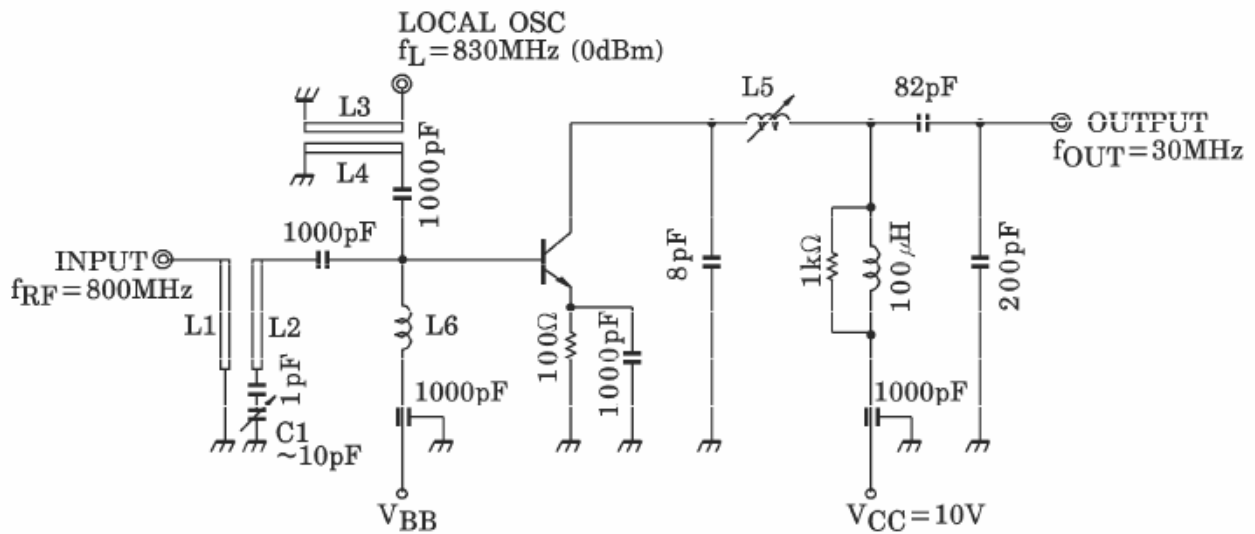
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CB0}	V _{CB} = 30V, I _E = 0	—	—	0.1	μA
Emitter Cut-off Current	I _{EB0}	V _{EB} = 2V, I _C = 0	—	—	1.0	μA
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 1mA, I _B = 0	15	—	—	V
DC Current Gain	h _{FE}	V _{CE} = 10V, I _C = 5mA	40	100	200	—
Reverse Transfer Capacitance	C _{re}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	0.6	0.9	pF
Transition Frequency	f _T	V _{CE} = 10V, I _C = 2mA	1500	2400	—	MHz
Conversion Gain	G _{ce}	V _{CC} = 10V, I _C = 2mA, f = 800MHz,	12	17	—	dB
Noise Figure	NF	f _L = 830MHz (0dBm) (Fig.1)	—	8	—	dB

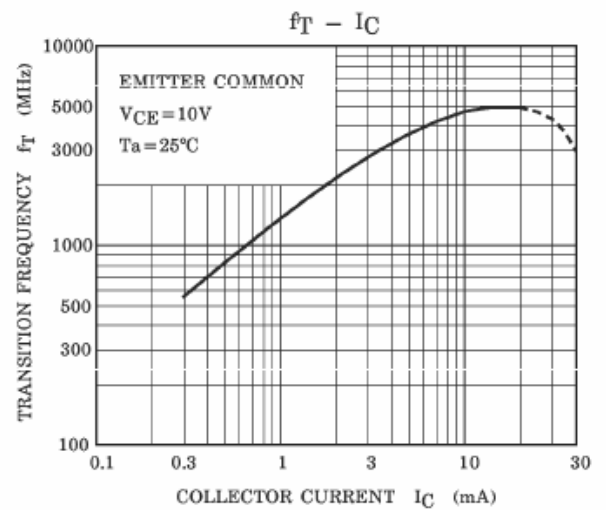
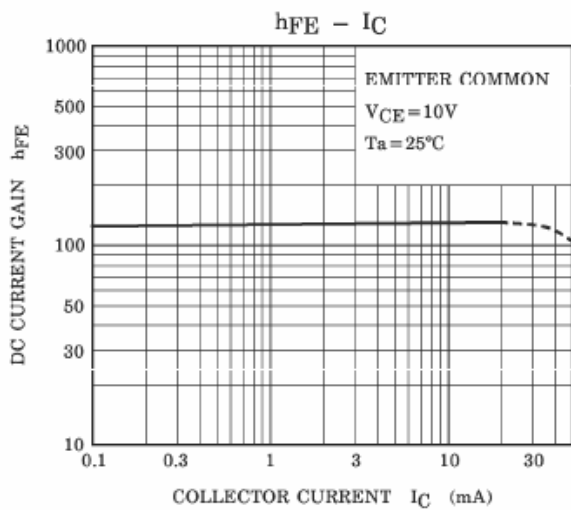
MAR3120

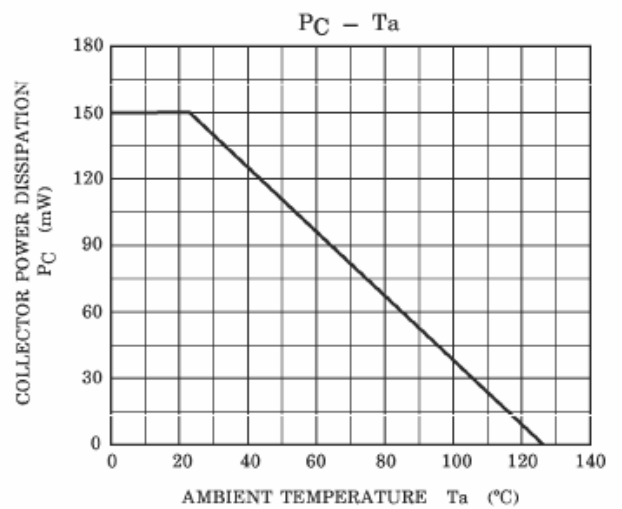
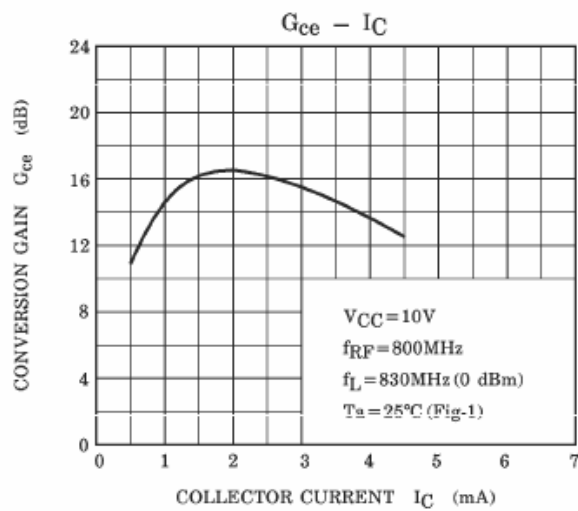
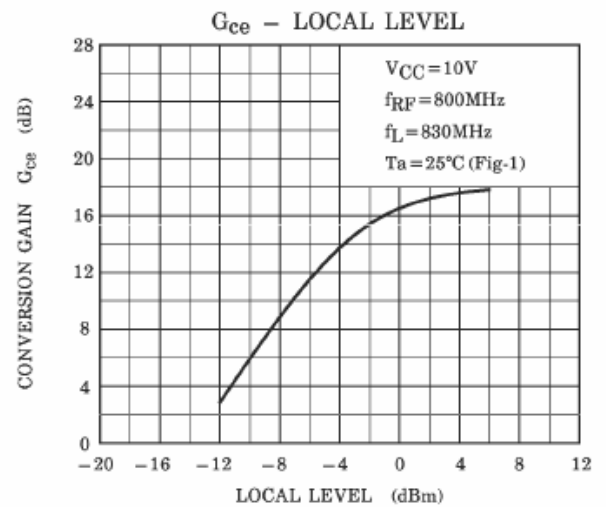
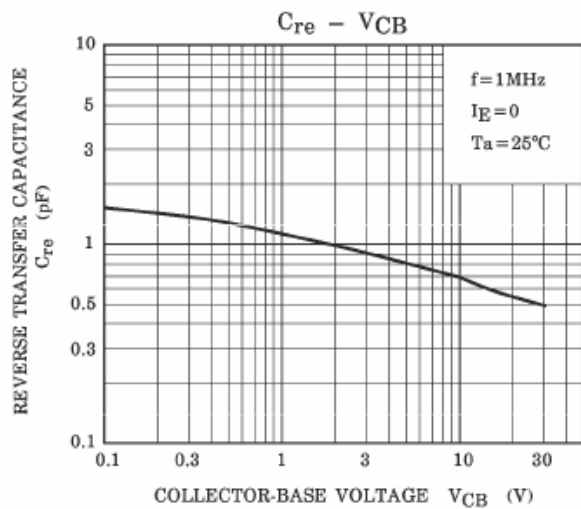
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Fig.1 800MHz G_{ce} , NF TEST CIRCUIT



- L1~L4 : ϕ 0.8mm SILVER PLATED COPPER WIRE
- L5 : AIR COIL SCN-5948 ① - ③ TOKO OR EQUIVALENT
- L6 : ϕ 0.2mm COPPER WIRE 10T 5mm ID
- C1 : AIR TRIMMER TTA23A100 MURATA MFC. Co., LTD. OR EQUIVALENT





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