



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT  
NPN Silicon RF Transistor**

VOLTAGE 11 Volts CURRENT 50 mAmpere

**CHRT5993WGP**

**APPLICATION**

- \* UHF Converter
- \* Local Oscillator

**FEATURE**

- \* Small surface mounting type. (SOT-323/SC-70)
- \* High Transition frequency.

**CONSTRUCTION**

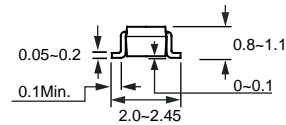
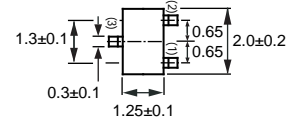
- \* NPN RF Transistor

**MARKING**

- \* R01



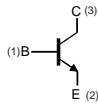
**SC-70/SOT-323**



Dimensions in millimeters

**SC-70/SOT-323**

**CIRCUIT**



**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter	-	20	V
V <sub>CEO</sub>	collector-emitter voltage	open base	-	11	V
V <sub>EBO</sub>	emitter-base voltage	open collector	-	3	V
I <sub>C</sub>	collector current (DC)		-	50	mA
P <sub>C</sub>	Collector power dissipation		-	0.2	W
T <sub>stg</sub>	storage temperature		-50	+150	°C
T <sub>j</sub>	junction temperature		-	150	°C

**Note**

2007-05

1. Transistor mounted on an FR4 printed-circuit board.

## RATING CHARACTERISTIC CURVES ( CHRT5993WGP )

### CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	20	-	-	V	$I_C = 10\mu\text{A}$ , $I_E = 0\text{A}$
Collector-emitter breakdown voltage	BVCEO	11	-	-	V	$I_C = 1\text{mA}$ , $I_B = 0\text{A}$
Emitter-base breakdown voltage	BVEBO	3	-	-	V	$I_E = 10\mu\text{A}$ , $I_C = 0\text{A}$
Collector cut-off current	ICBO	-	-	0.5	$\mu\text{A}$	$V_{CB} = 10\text{V}$ , $I_E = 0\text{A}$
Emitter cut-off current	IEBO	-	-	0.5	$\mu\text{A}$	$V_{EB} = 2\text{V}$ , $I_E = 0\text{A}$
DC current gain	hFE	56	-	180	-	$V_{CE} = 10\text{V}$ , $I_C = 5\text{mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.5	V	$I_C = 10\text{mA}$ , $I_B = 5\text{mA}$
Transition frequency	f T	1400	3200	-	MHz	$V_{CE} = 10\text{V}$ , $I_E = -10\text{mA}$
Collector output capacitance	Cob	-	0.8	1.5	pF	$V_{CB} = 10\text{V}$ , $f = 1\text{MHz}$ , $I_E = 0\text{A}$

## RATING CHARACTERISTIC CURVES ( CHRT5993WGP )

Figure 1. Collector-Emitter Saturation Voltage vs Collector Current

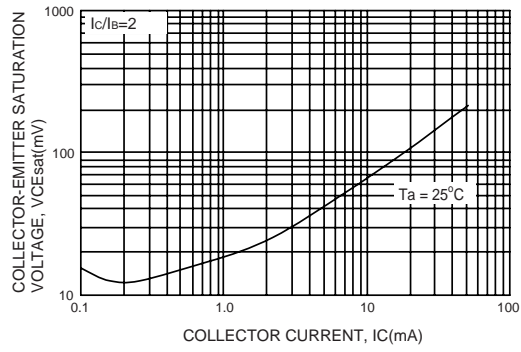


Figure 2. Collector-Base Voltage vs Collector Output Capacitance

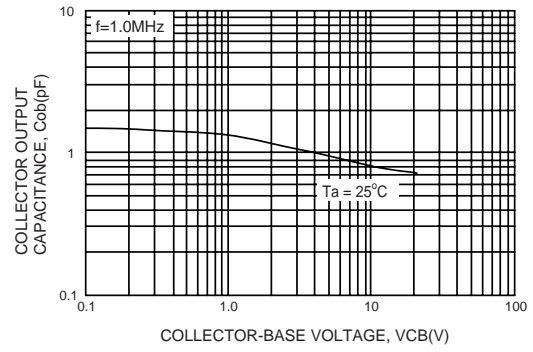


Figure 3. DC Current Gain

