



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

**SURFACE MOUNT
NPN Silicon RF Transistor**

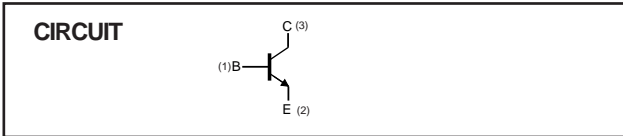
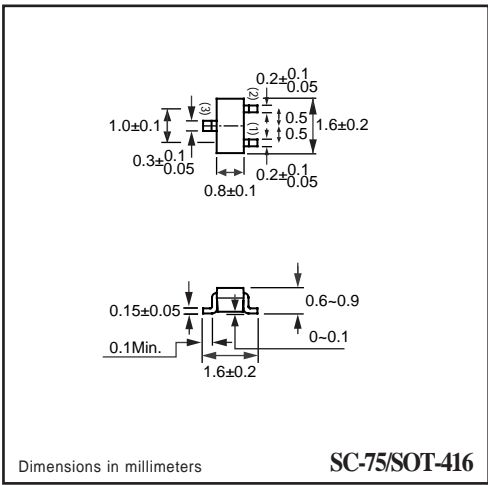
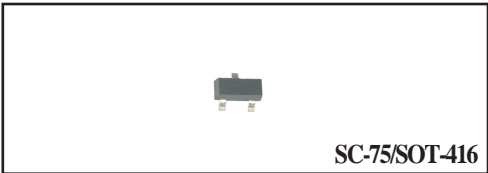
VOLTAGE 11 Volts CURRENT 50 mAmpere

CHRT5993TPT

APPLICATION
 * UHF Converter
 * Local Oscillator

FEATURE
 * Small surface mounting type. (SOT-416/SC-75)
 * High Transition frequency.

CONSTRUCTION
 * NPN RF Transistor



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CB0}	collector-base voltage	open emitter	-	20	V
V _{CEO}	collector-emitter voltage	open base	-	11	V
V _{EBO}	emitter-base voltage	open collector	-	3	V
I _C	collector current (DC)		-	50	mA
P _C	Collector power dissipation		-	0.15	W
T _{stg}	storage temperature		-50	+150	°C
T _j	junction temperature		-	150	°C

Note

2007-05

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

RATING CHARACTERISTIC CURVES (CHRT5993TPT)

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	μA	$V_{CB} = 10\text{V}$, $I_E = 0\text{A}$
Emitter cut-off current	IEBO	-	-	0.5	μA	$V_{EB} = 2\text{V}$, $I_E = 0\text{A}$
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 (CHRT5993TPT)

Figure 1. Collector-Emitter Saturation Voltage vs Collector Current

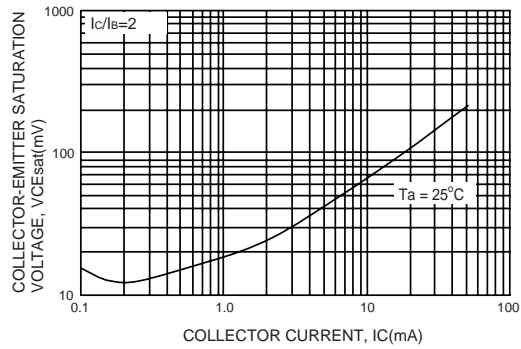


Figure 2. Collector-Base Voltage vs Collector Output Capacitance

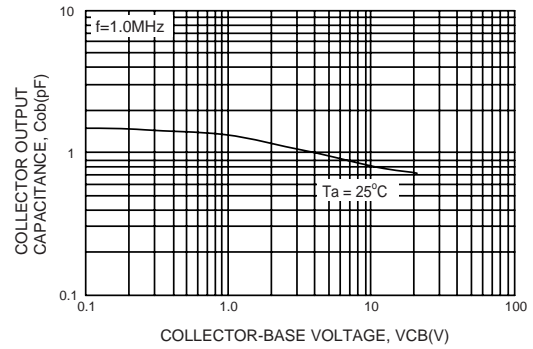


Figure 3. DC Current Gain

