



CHENMKO ENTERPRISE CO.,LTD

2SC5663PT

SURFACE MOUNT

Low Ferquency NPN Transistor

VOLTAGE 12 Volts CURRENT 0.5 Ampere

Lead free devices

APPLICATION

* For switching,for muting.

FEATURE

- * Small surface mounting type. (SOT-723)
- * High current
- * Collector saturation voltage is low.
 $V_{CE(sat)} \leq 250\text{mA}$
At $I_C=200\text{mA}/I_B=10\text{mA}$

CONSTRUCTION

* NPN Silicon Transistor

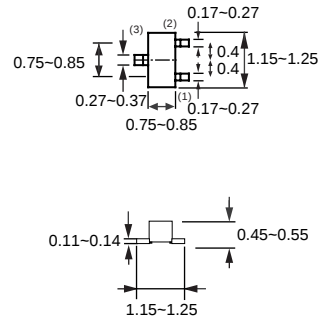
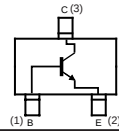
MARKING

* 31



SOT-723

CIRCUIT



Dimensions in millimeters

SOT-723

MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CB0}	-	15	Volts
Collector - Emitter Voltage	Open Base	V_{CEO}	-	12	Volts
Collector Current DC		I_C	-	500	mAmps
Peak Collector Current		I_{CM}	-	1000	mAmps
Total Power Dissipation	$T_A \leq 25^\circ\text{C}$; Note 1	P_{TOT}	-	150	mW
Storage Temperature		T_{STG}	-55	+150	$^\circ\text{C}$
Junction Temperature		T_J	-	+150	$^\circ\text{C}$
Operating Ambient Temperature		T_{AMB}	-55	+150	$^\circ\text{C}$

Note

1. Transistor mounted on ceramic substrate 50mmX50mmX0.8t.

2004-06

RATING CHARACTERISTICS (2SC5663PT)

THERMAL CHARACTERISTICS CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
I_{CBO}	collector cut-off current	$V_{CB}=15V$	–	–	0.1	μA
BV_{CBO}	collector-base breakdown voltage	$I_C = 10\mu A$	15	–	–	V
BV_{CEO}	collector-emitter breakdown voltage	$I_C = 1mA$	12	–	–	V
BV_{EBO}	emitter-base breakdown voltage	$I_E = 10\mu A$	6	–	–	V
h_{FE}	DC current transfer ratio	$V_{CE}=2V$, $I_C=10mA$	270	–	680	
V_{CEsat}	collector-emitter saturation voltage	$I_C/I_B=200mA/10mA$	–	90	250	mV
C_{ob}	collector output capacitance	$I_E = 0$; $V_{CB} = 10V$; $f = 1\text{ MHz}$	–	7.5	–	pF
f_T	transition frequency	$I_E = -10\text{ mA}$; $V_{CE} = 2\text{ V}$; $f = 30\text{ MHz}$	–	320	–	MHz

Note

1. Pulse test: $t_p \leq 300\text{ }\mu s$; $\delta \leq 0.02$.

RATING CHARACTERISTIC CURVES (2SC5663PT)

●Electrical characteristic curves

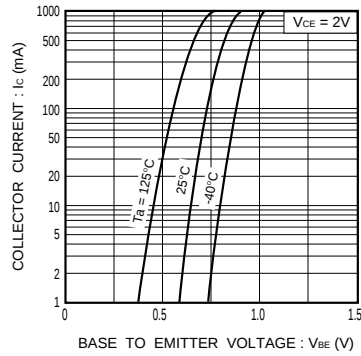


Fig.1 Grounded emitter propagation characteristics

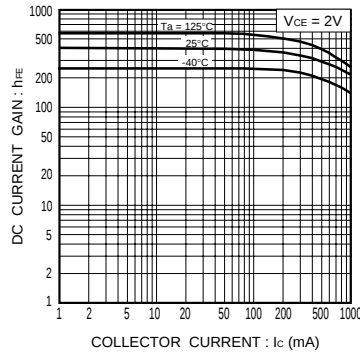


Fig.2 DC current gain vs. collector current

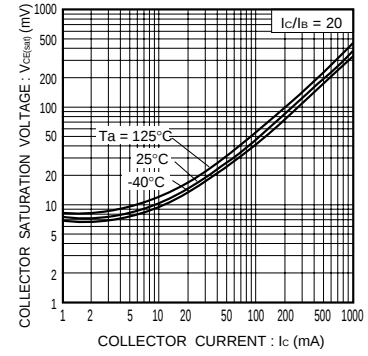


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

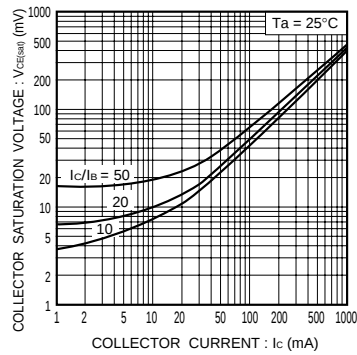


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

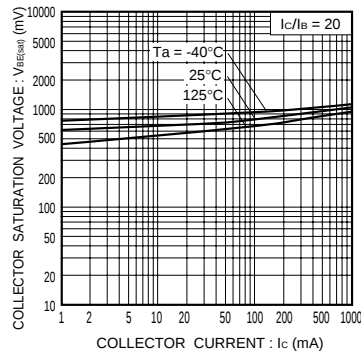


Fig.5 Base-emitter saturation voltage vs. collector current

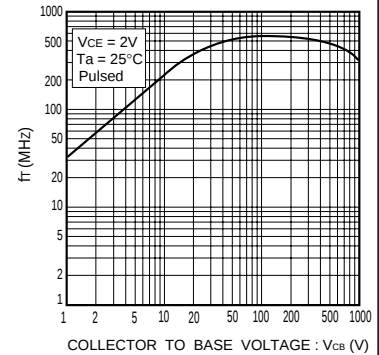


Fig.6 Collector output capacitance Emitter input capacitance vs. base voltage

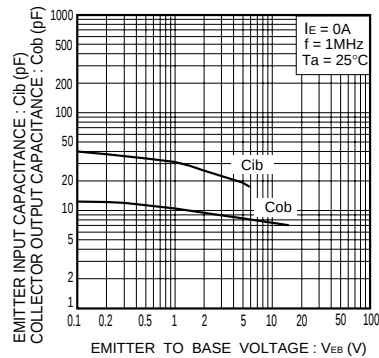


Fig.7 Collector output capacitance vs collector-base voltage
Emitter input capacitance vs emitter-base voltage