



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SURFACE MOUNT

Low Ferquency NPN Transistor

VOLTAGE 12 Volts CURRENT 0.5 Ampere

2SC5663TPT

APPLICATION

* For switching,for muting.

FEATURE

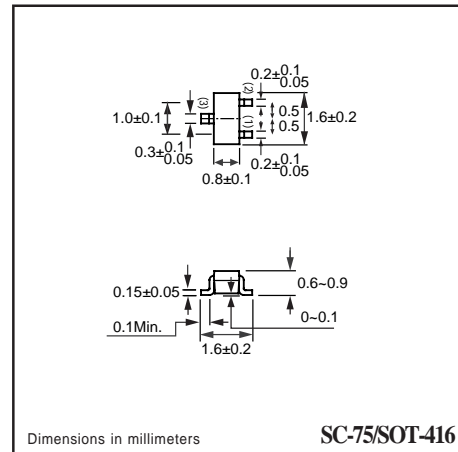
- * Small surface mounting type. (SC-75/SOT-416)
- * High current
- * Collector saturation voltage is low.
 $V_{CE(sat)} \leq 250\text{mA}$
 At $I_C=200\text{mA}/I_B=10\text{mA}$

CONSTRUCTION

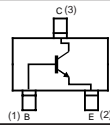
* NPN Silicon Transistor

MARKING

* 31



CIRCUIT



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_{CE0}	-	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.

2007-06

RATING CHARACTERISTICS (2SC5663TPT)

THERMAL CHARACTERISTICS CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
I_{CBO}	collector cut-off current	$V_{CB}=15\text{V}$	–	–	0.1	μA
BV_{CBO}	collector-base breakdown voltage	$I_C = 10\mu\text{A}$	15	–	–	V
BV_{CEO}	collector-emitter breakdown voltage	$I_C = 1\text{mA}$	12	–	–	V
BV_{EBO}	emitter-base breakdown voltage	$I_E = 10\mu\text{A}$	6	–	–	V
h_{FE}	DC current transfer ratio	$V_{CE}=2\text{V}$, $I_C=10\text{mA}$	270	–	680	
V_{CEsat}	collector-emitter saturation voltage	$I_C/I_B=200\text{mA}/10\text{mA}$	–	90	250	mV
C_{ob}	collector output capacitance	$I_E = 0$; $V_{CB} = 10\text{V}$; $f = 1\text{ MHz}$	–	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: $t_p \leq 300\ \mu\text{s}$; $\delta \leq 0.02$.

RATING CHARACTERISTIC CURVES (2SC5663TPT)

● Electrical characteristic curves

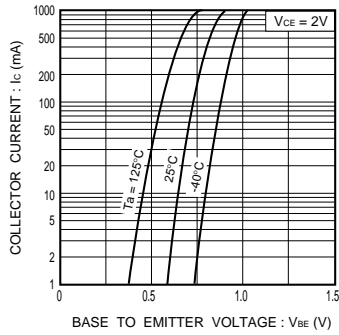


Fig.1 Grounded emitter propagation characteristics

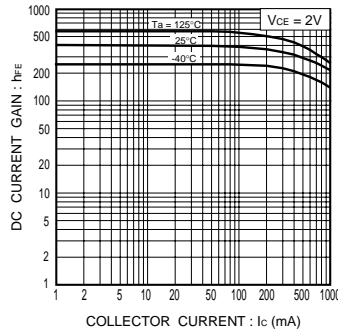


Fig.2 DC current gain vs. collector current

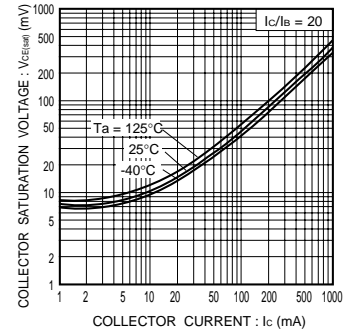


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

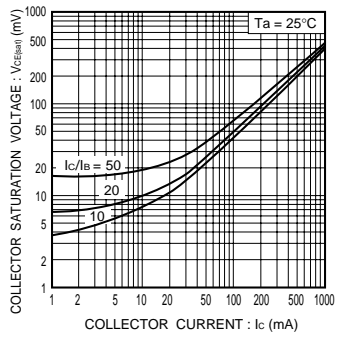


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

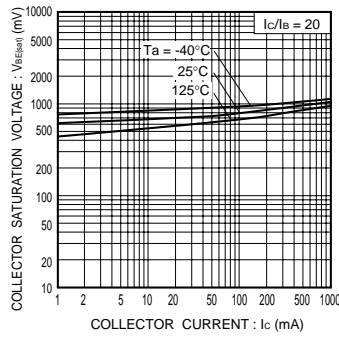


Fig.5 Base-emitter saturation voltage vs. collector current

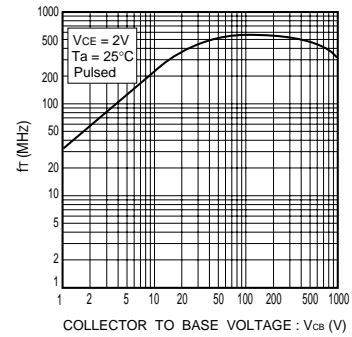


Fig.6 Collector output capacitance Emitter input capacitance vs. base voltage

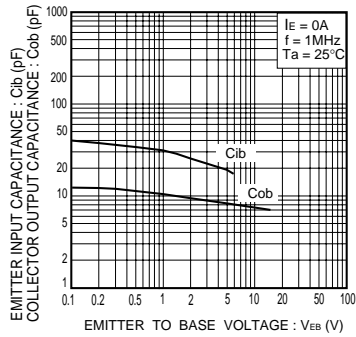


Fig.7 Collector output capacitance vs collector-base voltage Emitter input capacitance vs emitter-base voltage