



**CHENMKO ENTERPRISE CO.,LTD**

*Lead free devices*

**SURFACE MOUNT**  
**Low Ferquency NPN Transistor**  
**VOLTAGE 12 Volts CURRENT 0.5 Ampere**

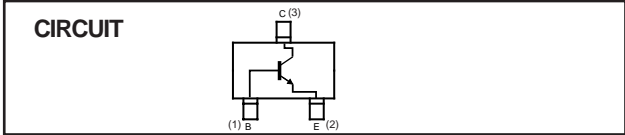
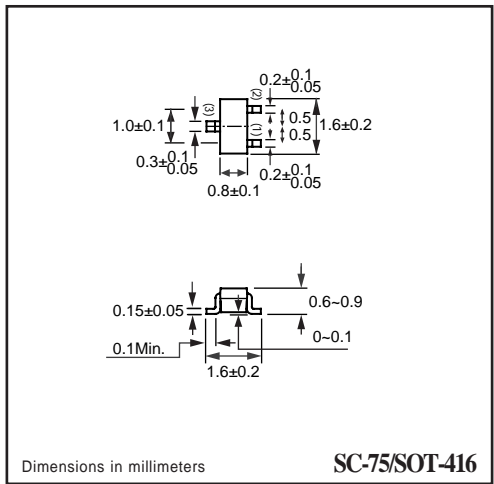
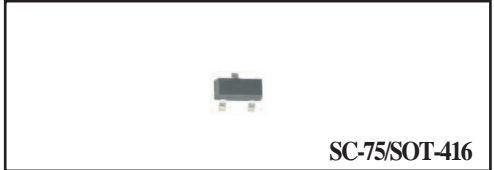
**2SC5663TPT**

**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



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

| RATINGS                       | CONDITION                            | SYMBOL    | MIN. | MAX. | UNITS            |
|-------------------------------|--------------------------------------|-----------|------|------|------------------|
| Collector - Base Voltage      | Open Emitter                         | $V_{CBO}$ | -    | 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**

2007-06

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

## 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            | $V_{CB}=15V$                                                  | –    | –    | 0.1  | $\mu\text{A}$ |
| $BV_{CBO}$  | 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            | $V_{CE}=2V, I_C=10\text{mA}$                                  | 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         | $I_E = 0; V_{CB} = 10V; f = 1\text{ MHz}$                     | –    | 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:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .

# RATING CHARACTERISTIC CURVES ( 2SC5663TPT )

## ●Electrical characteristic curves

