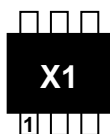


RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

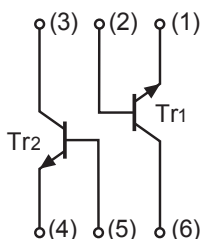
## FEATURES

- Two 2SC2412K chips in a SOT-563 package.
- Mounting possible with SOT-563 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Mounting cost and area can be cut in half.

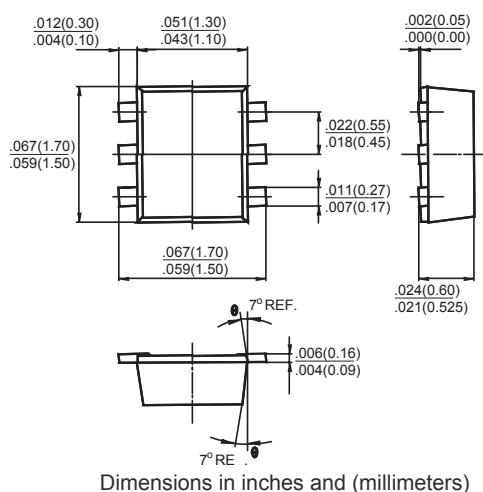
## MARKING



## EQUIVALENT CIRCUIT



SOT-563



## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                      | Symbol         | Rated        | Unit             |
|--------------------------------|----------------|--------------|------------------|
| Collector-Base Voltage         | $V_{CBO}$      | 60           | V                |
| Collector-Emitter Voltage      | $V_{CEO}$      | 50           | V                |
| Emitter-Base Voltage           | $V_{EBO}$      | 7            | V                |
| Collector Current – Continuous | $I_C$          | 0.15         | A                |
| Collector Power Dissipation    | $P_C$          | 0.15         | W                |
| Junction & Storage temperature | $T_J, T_{STG}$ | 150, -55~150 | $^\circ\text{C}$ |

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit          | Test Conditions                                      |
|--------------------------------------|---------------|------|------|------|---------------|--|
| Collector-Base Breakdown Voltage     | $V_{(BR)CBO}$ | 60   | -    | -    | V             | $I_C=50\mu\text{A}, I_E=0$                           |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | 50   | -    | -    | V             | $I_C=1\text{mA}, I_B=0$                              |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$ | 7    | -    | -    | V             | $I_E=50\mu\text{A}, I_C=0$                           |
| Collector Cut-Off Current            | $I_{CBO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{CB}=60\text{V}, I_E=0$                           |
| Emitter Cut-Off Current              | $I_{EBO}$     | -    | -    | 0.1  | $\mu\text{A}$ | $V_{EB}=7\text{V}, I_C=0$                            |
| DC Current Gain                      | $h_{FE}$      | 120  | -    | 560  |               | $V_{CE}=6\text{V}, I_C=1\text{mA}$                   |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | -    | -    | 0.4  | V             | $I_C=50\text{mA}, I_B=5\text{mA}$                    |
| Transition Frequency                 | $f_T$         | -    | 180  | -    | MHz           | $V_{CE}=12\text{V}, I_C=2\text{mA}, f=100\text{MHz}$ |
| Collector Output Capacitance         | $C_{ob}$      | -    | 2.0  | 3.5  | pF            | $V_{CB}=12\text{V}, I_E=0, f=1\text{MHz}$            |

**TYPICAL CHARACTERISTICS**

EMX1

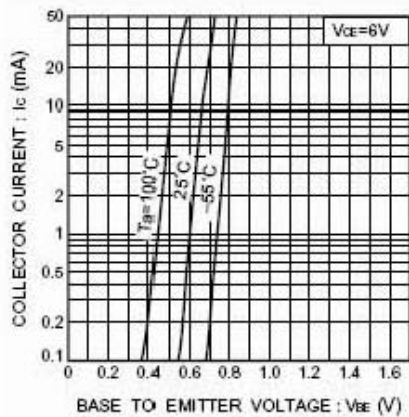


Fig.1 Grounded emitter propagation characteristics

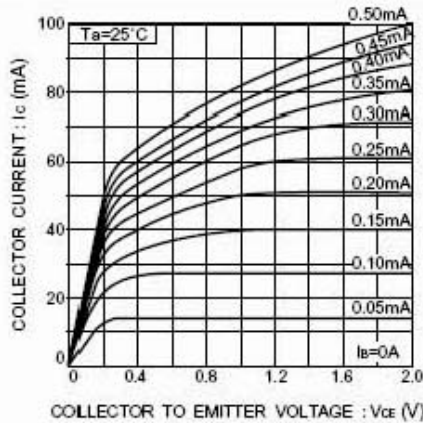


Fig.2 Grounded emitter output characteristics ( I )

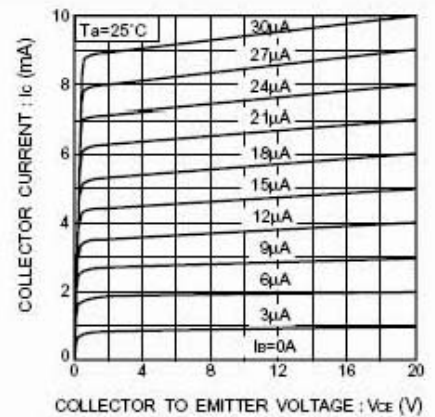


Fig.3 Grounded emitter output characteristics ( II )

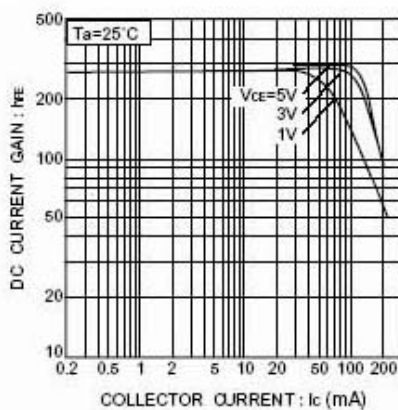


Fig.4 DC current gain vs. collector current ( I )

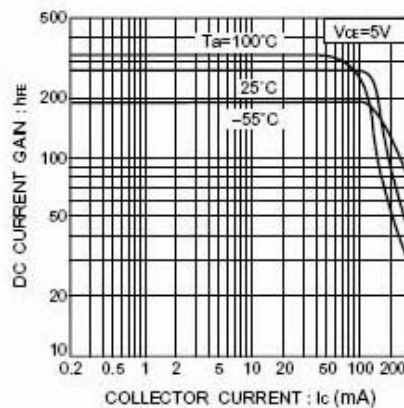


Fig.5 DC current gain vs. collector current ( II )

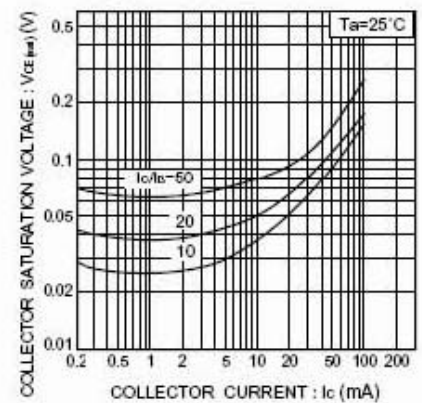


Fig.6 Collector-emitter saturation voltage vs. collector current

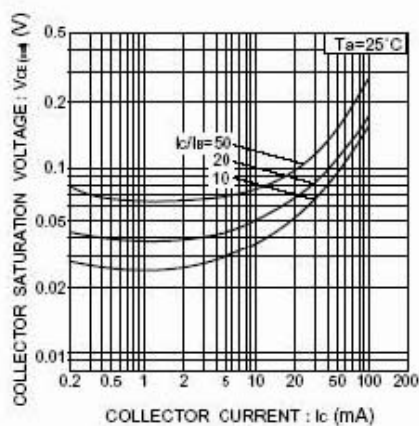


Fig.7 Collector-emitter saturation voltage vs. collector current ( I )

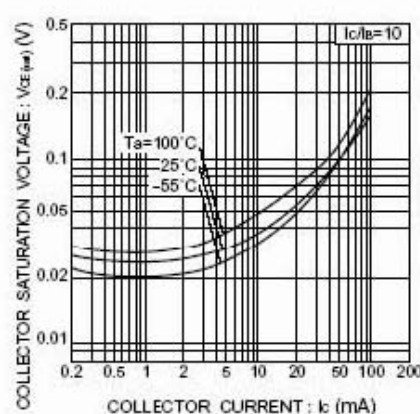


Fig.8 Collector-emitter saturation voltage vs. collector current ( II )

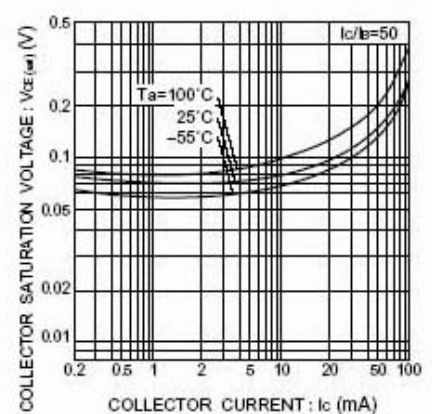


Fig.9 Collector-emitter saturation voltage vs. collector current ( III )

**TYPICAL CHARACTERISTICS (cont'd)**

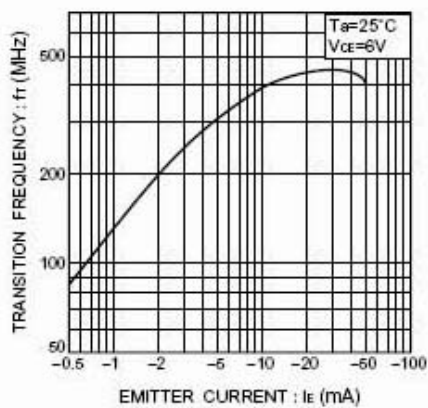


Fig.10 Gain bandwidth product vs. emitter current

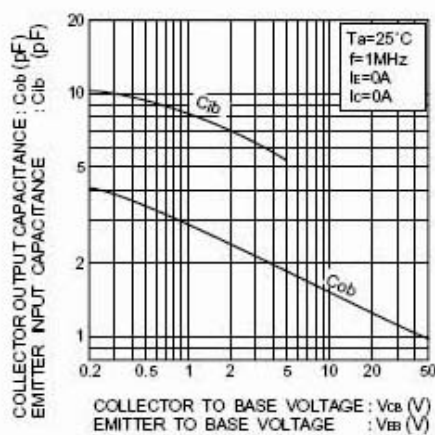


Fig.11 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

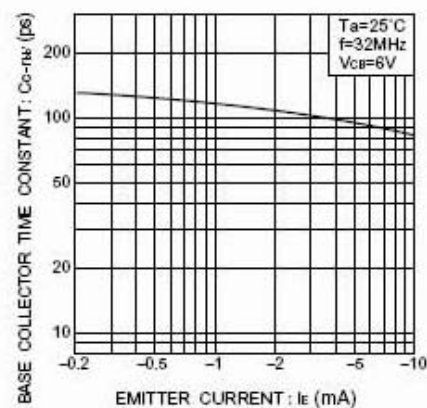


Fig.12 Base-collector time constant vs. emitter current