

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

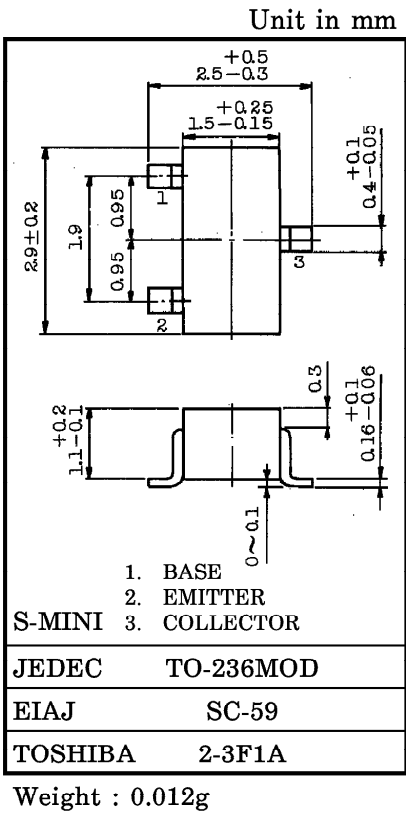
2SC2712

AUDIO FREQUENCY GENERAL PURPOSE AMPLIFIER APPLICATIONS.

- High Voltage and High Current  
:  $V_{CEO}=50V$ ,  $I_C=150mA$  (Max.)
- Excellent  $h_{FE}$  Linearity  
:  $h_{FE}(I_C=0.1mA)/h_{FE}(I_C=2mA)=0.95$  (Typ.)
- High  $h_{FE}$  :  $h_{FE}=70\sim700$
- Low Noise :  $NF=1dB$  (Typ.),  $10dB$  (Max.)
- Complementary to 2SA1162
- Small Package

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT |
|-----------------------------|-----------|---------|------|
| Collector-Base Voltage      | $V_{CBO}$ | 60      | V    |
| Collector-Emitter Voltage   | $V_{CEO}$ | 50      | V    |
| Emitter-Base Voltage        | $V_{EBO}$ | 5       | V    |
| Collector Current           | $I_C$     | 150     | mA   |
| Base Current                | $I_B$     | 30      | mA   |
| Collector Power Dissipation | $P_C$     | 150     | mW   |
| Junction Temperature        | $T_j$     | 125     | °C   |
| Storage Temperature Range   | $T_{stg}$ | -55~125 | °C   |

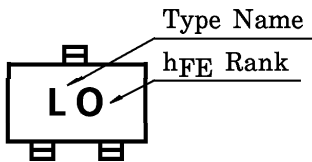


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION   | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|-----------------------|--|------|------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$             | $V_{CB}=60V$ , $I_E=0$                                 | —    | —    | 0.1  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$             | $V_{EB}=5V$ , $I_C=0$                                  | —    | —    | 0.1  | $\mu A$ |
| DC Current Gain                      | $h_{FE}(\text{Note})$ | $V_{CE}=6V$ , $I_C=2mA$                                | 70   | —    | 700  |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C=100mA$ , $I_B=10mA$                               | —    | 0.1  | 0.25 | V       |
| Transtion Frequency                  | $f_T$                 | $V_{CE}=10V$ , $I_C=1mA$                               | 80   | —    | —    | MHz     |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB}=10V$ , $I_E=0$ , $f=1MHz$                      | —    | 2.0  | 3.5  | pF      |
| Noise Figure                         | NF                    | $V_{CE}=6V$ , $I_C=0.1mA$ , $f=1kHz$ , $R_g=10k\Omega$ | —    | 1.0  | 10   | dB      |

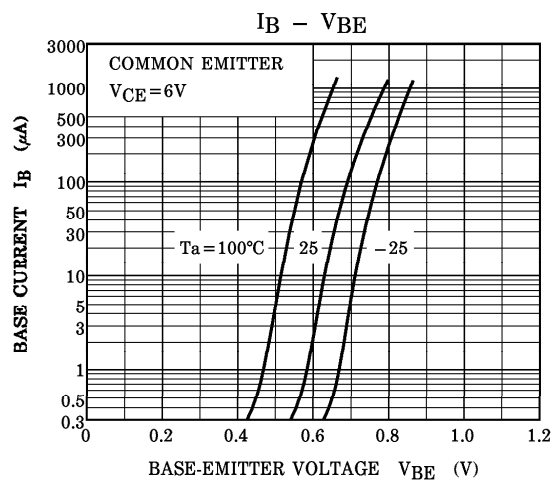
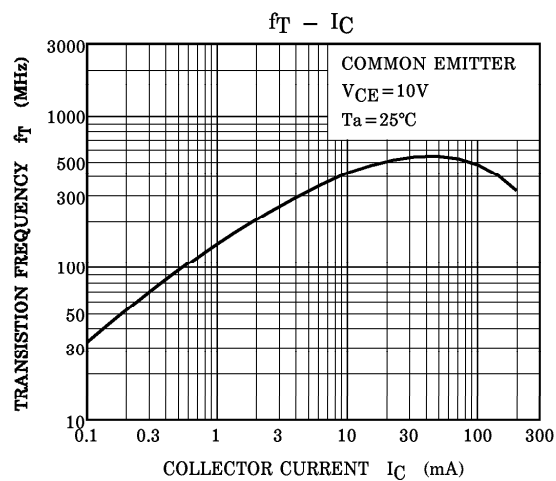
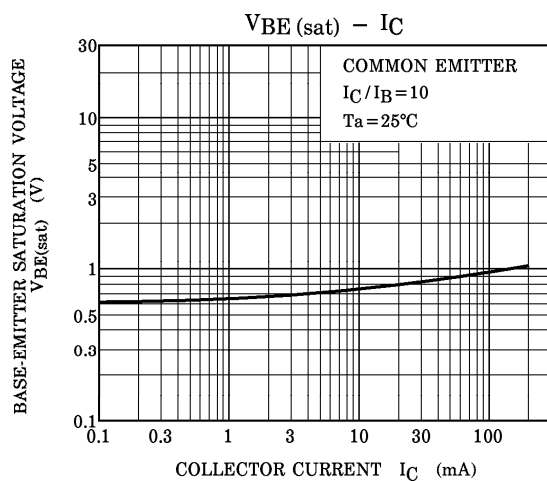
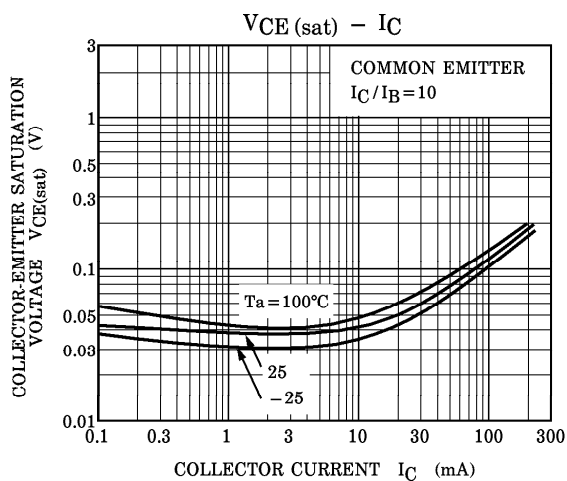
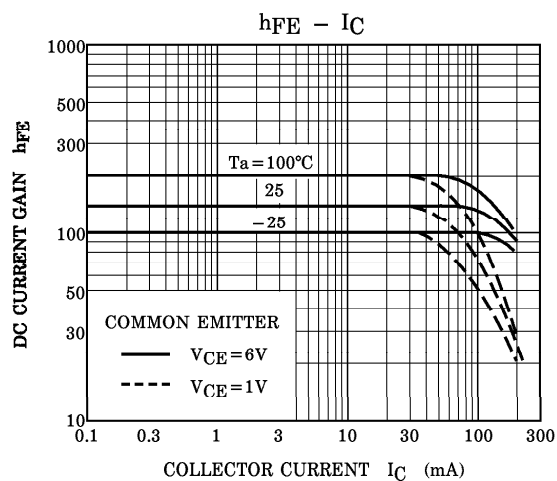
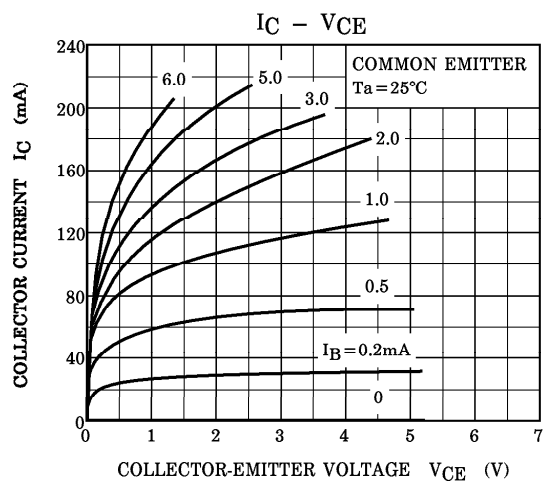
Note :  $h_{FE}$  Classification  
O (O) : 70~140, Y (Y) : 120~240, GR (G) : 200~400,  
BL (L) : 350~700  
( ) Marking Symbol

MARKING



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