**TENTATIVE**

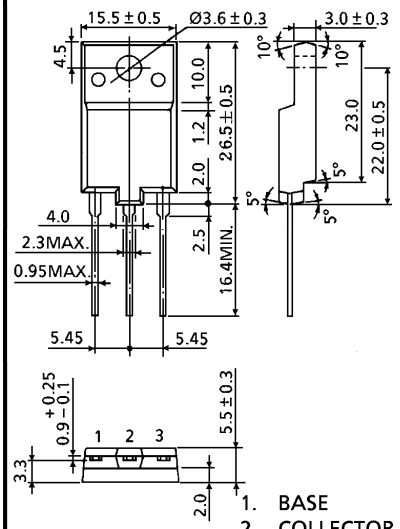
TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SD2559

HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

- High Voltage : $V_{CBO}$ = 1500 V
- Low Saturation Voltage : $V_{CE\ (sat)}$ = 5 V (Max.)
- Built-in Damper Type
- Collector Metal (Fin) is Fully Covered with Mold Resin.

Unit in mm



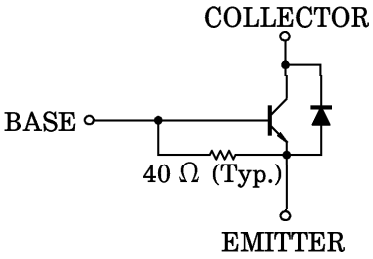

| | |
|---|---|
| JEDEC | — |
| EIAJ | — |
| TOSHIBA | 2-16E3A |

Weight : 5.5 g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---|---|---|---|---|
| Collector-Base Voltage | | $V_{CBO}$ | 1500 | V |
| Collector-Emitter Voltage | | $V_{CEO}$ | 600 | V |
| Emitter-Base Voltage | | $V_{EBO}$ | 5 | V |
| Collector Current | DC | $I_C$ | 8 | A |
| | Pulse | $I_{CP}$ | 16 | |
| Base Current | | $I_B$ | 4 | A |
| Collector Power Dissipation (Tc = 25°C) | | $P_C$ | 50 | W |
| Junction Temperature | | $T_j$ | 150 | °C |
| Storage Temperature Range | | $T_{stg}$ | −55~150 | °C |

EQUIVALENT CIRCUIT




961001EAA1


- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
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- The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|---|
| Collector Cut-off Current | | $I_{CBO}$ | $V_{CB}$ = 1500 V, $I_E$ = 0 | — | — | 1 | mA |
| Emitter Cut-off Current | | $I_{EBO}$ | $V_{EB}$ = 5 V, $I_C$ = 0 | 83 | — | 250 | mA |
| Emitter-Base Breakdown Voltage | | $V_{EBO}$ | $I_E$ = 300 mA, $I_B$ = 0 | 5 | — | — | V |
| DC Current Gain | | $h_{FE\,(1)}$ | $V_{CE}$ = 5 V, $I_C$ = 1 A | 10 | — | 30 | — |
| | | $h_{FE\,(2)}$ | $V_{CE}$ = 5 V, $I_C$ = 6 A | 5 | — | 9 | |
| Collector-Emitter Saturation Voltage | | $V_{CE\,(sat)}$ | $I_C$ = 6 A, $I_B$ = 1.2 A | — | — | 5 | V |
| Base-Emitter Saturation Voltage | | $V_{BE\,(sat)}$ | $I_C$ = 6 A, $I_B$ = 1.2 A | — | — | 1.5 | V |
| Forward Voltage (Damper Diode) | | $-V_F$ | $I_F$ = 6 A | — | — | 1.8 | V |
| Transition Frequency | | $f_T$ | $V_{CE}$ = 10 V, $I_C$ = 0.1 A | — | 2 | — | MHz |
| Collector Output Capacitance | | $C_{ob}$ | $V_{CB}$ = 10 V, $I_E$ = 0, f = 1 MHz | — | 125 | — | pF |
| Switching Time | Storage Time | $t_{stg}$ | $I_{CP}$ = 6 A, $I_{B1}$ (end) = 1.2 A | — | 6 | 8.5 | μs |
| | Fall Time | $t_f$ | $f_H$ = 15.75 kHz | — | 0.4 | 0.7 | |