TOSHIBA TRANSISTOR  SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2 S A 1 0 1 3

COLOR TV VERT. DEFLECTION OUTPUT APPLICATIONS.
COLOR TV CLASS B SOUND OUTPUT APPLICATIONS.

- High Voltage : $V_{CEO} = -160V$
- Large Continuous Collector Current Capability.
- Recommended for Vert. Deflection Output & Sound Output Applications for Line Operated TV.
- Complementary to 2SC2585.

MAXIMUM RATINGS (Ta = 25°C)

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>SYMBOL</th>
<th>RATING</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector-Base Voltage</td>
<td>$V_{CBO}$</td>
<td>$-160$</td>
<td>V</td>
</tr>
<tr>
<td>Collector-Emitter Voltage</td>
<td>$V_{CEO}$</td>
<td>$-160$</td>
<td>V</td>
</tr>
<tr>
<td>Emitter-Base Voltage</td>
<td>$V_{EBO}$</td>
<td>$-6$</td>
<td>V</td>
</tr>
<tr>
<td>Collector Current</td>
<td>$I_C$</td>
<td>$-1$</td>
<td>A</td>
</tr>
<tr>
<td>Base Current</td>
<td>$I_B$</td>
<td>$-0.5$</td>
<td>A</td>
</tr>
<tr>
<td>Collector Power Dissipation</td>
<td>$P_C$</td>
<td>$900$</td>
<td>mW</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>$T_J$</td>
<td>$150$</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>$T_{stg}$</td>
<td>$-55$-$150$</td>
<td>°C</td>
</tr>
</tbody>
</table>

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>SYMBOL</th>
<th>TEST CONDITION</th>
<th>MIN.</th>
<th>TYP.</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector Cut-off Current</td>
<td>$I_{CB}$</td>
<td>$V_{CB} = -150V, I_E = 0$</td>
<td>--</td>
<td>--</td>
<td>$-1.0$</td>
<td>μA</td>
</tr>
<tr>
<td>Emitter Cut-off Current</td>
<td>$I_{EB}$</td>
<td>$V_{EB} = -6V, I_C = 0$</td>
<td>--</td>
<td>--</td>
<td>$-1.0$</td>
<td>μA</td>
</tr>
<tr>
<td>Collector-Emitter Breakdown Voltage</td>
<td>$V_{(BR)CEO}$</td>
<td>$I_C = -10mA, I_B = 0$</td>
<td>$-160$</td>
<td>--</td>
<td>--</td>
<td>V</td>
</tr>
<tr>
<td>DC Current Gain</td>
<td>$h_F$</td>
<td>$V_{CE} = -5V, I_C = -200mA$</td>
<td>60</td>
<td>--</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Collector-Emitter Saturation Voltage</td>
<td>$V_{CE(sat)}$</td>
<td>$I_C = -500mA, I_B = -50mA$</td>
<td>--</td>
<td>--</td>
<td>$-1.5$</td>
<td>V</td>
</tr>
<tr>
<td>Base-Emitter Voltage</td>
<td>$V_{BE}$</td>
<td>$V_{CE} = -5V, I_C = -5mA$</td>
<td>$-0.45$</td>
<td>--</td>
<td>$-0.75$</td>
<td>V</td>
</tr>
<tr>
<td>Transition Frequency</td>
<td>$f_T$</td>
<td>$V_{CE} = -5V, I_C = -200mA$</td>
<td>15</td>
<td>50</td>
<td>--</td>
<td>MHz</td>
</tr>
<tr>
<td>Collector Output Capacitance</td>
<td>$C_{ob}$</td>
<td>$V_{CE} = -10V, I_E = 0, f=1MHz$</td>
<td>--</td>
<td>--</td>
<td>85</td>
<td>pF</td>
</tr>
</tbody>
</table>

Note : $h_F$ Classification $R : 60$-$120$, $O : 100$-$200$

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