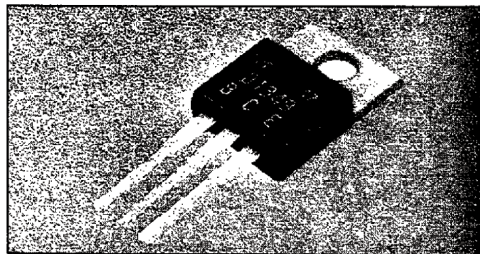


7A

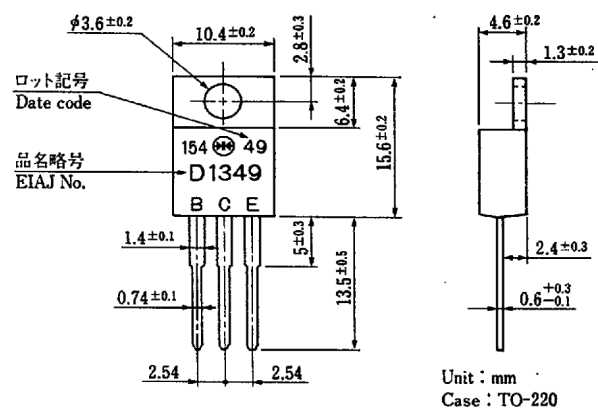
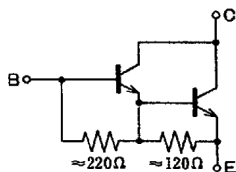
2SD1349  
(T7K40)

NPNダーリントントランジスタ / NPN Darlington Transistor

## 外形寸法図 Outline Dimensions



等価回路 Equivalent Circuit



## 絶対最大定格 Absolute Max. Ratings

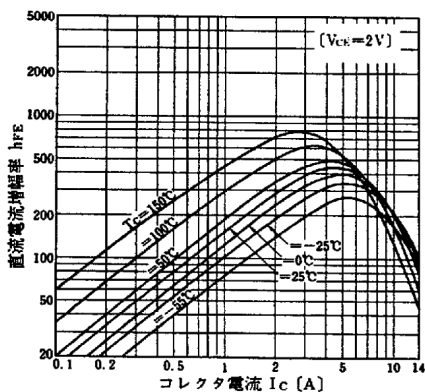
| 項目<br>Item                                  | 記号<br>Symbol     | 条件<br>Conditions                              | 規格値<br>Ratings | 単位<br>Unit |
|---|------------------|---|----------------|------------|
| 保存温度<br>Storage Temperature                 | Tstg             |   | -55~+150       | ℃          |
| 接合部温度<br>Junction Temperature               | Tj               |   | +150           | ℃          |
| コレクタ・ベース電圧<br>Collector to Base Voltage     | V <sub>CB0</sub> |   | 500            | V          |
| コレクタ・エミッタ電圧<br>Collector to Emitter Voltage | V <sub>CE0</sub> |   | 400            | V          |
| エミッタ・ベース電圧<br>Emitter to Base Voltage       | V <sub>EB0</sub> |   | 12             | V          |
| コレクタ電流<br>Collector Current                 | DC               | I <sub>c</sub>                                | 7              | A          |
|   | Peak             | I <sub>CP</sub>                               | 14             |            |
| ベース電流<br>Base Current                       | DC               | I <sub>B</sub>                                | 0.5            | A          |
|   | Peak             | I <sub>BP</sub>                               | 1              |            |
| トランジスタ損失<br>Total Transistor Dissipation    | P <sub>T</sub>   | T <sub>c</sub> =25℃                           | 50             | W          |
| 締め付けトルク<br>Mounting Torque                  | TOR              | (推奨値: 3kg·cm)<br>(Recommended torque: 3kg·cm) | 5              | kg·cm      |

電氣的・熱的特性 Electrical Characteristics (T<sub>c</sub>=25℃)

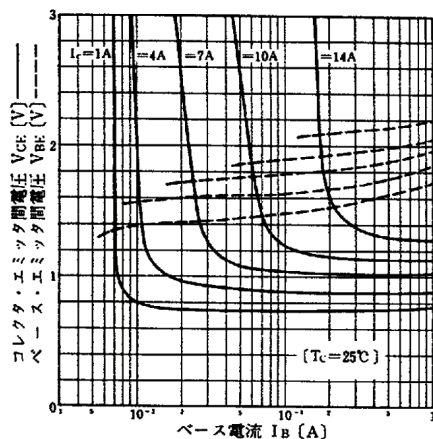
| 項目<br>Item   | 記号<br>Symbol          | 条件<br>Conditions                          | 規格値<br>Ratings | 単位<br>Unit |
|--|-----------------------|---|----------------|------------|
| コレクタ・エミッタ電圧<br>Collector to Emitter Sustaining Voltage   | V <sub>CE0(sus)</sub> | V <sub>CE</sub> (Clamp)                   | MIN 400        | V          |
| コレクタ遮断電流<br>Collector Cutoff Current                     | I <sub>CB0</sub>      | V <sub>CB</sub> =500V                     | MAX 0.1        | mA         |
|  | I <sub>CE0</sub>      | V <sub>CE</sub> =400V                     | MAX 0.1        |            |
| エミッタ遮断電流<br>Emitter Cutoff Current                       | I <sub>EB0</sub>      | V <sub>EB</sub> =12V                      | MAX 100        | mA         |
| 直流電流増幅率<br>DC Current Gain                               | h <sub>FE</sub>       | V <sub>CE</sub> =2V, I <sub>c</sub> =7A   | MIN 150        |            |
|  |                       |   | MAX 5,000      |            |
| コレクタ・エミッタ飽和電圧<br>Collector to Emitter Saturation Voltage | V <sub>CE(sat)</sub>  | I <sub>c</sub> =7A, I <sub>B</sub> =70mA  | MAX 1.5        | V          |
| ベース・エミッタ飽和電圧<br>Base to Emitter Saturation Voltage       | V <sub>BE(sat)</sub>  |   | MAX 2.0        | V          |
| 熱抵抗<br>Thermal Resistance                                | θ <sub>jc</sub>       | 接合部・ケース間<br>Junction to case              | MAX 2.5        | ℃/W        |
| トランジション周波数<br>Transition Frequency                       | f <sub>T</sub>        | V <sub>CE</sub> =10V, I <sub>c</sub> =1A  | STD 10         | MHz        |
| ターンオン時間<br>Turn on Time                                  | t <sub>on</sub>       | I <sub>B1</sub> =I <sub>B2</sub> =70mA    | MAX 2          | μS         |
| 蓄積時間<br>Storage Time                                     | t <sub>s</sub>        | I <sub>c</sub> =7A<br>R <sub>L</sub> =10Ω | MAX 12         | μS         |
| 下降時間<br>Fall Time  | t <sub>f</sub>        | V <sub>BB2</sub> =4V                      | MAX 9          | μS         |

特性図 Characteristic Diagrams

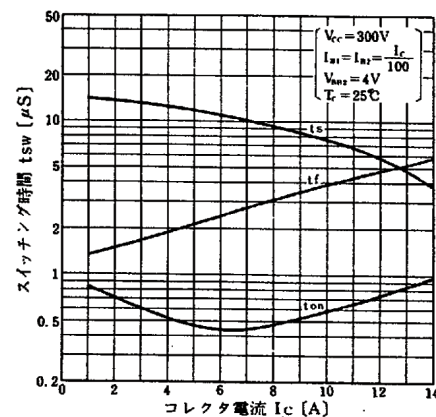
hFE—Ic



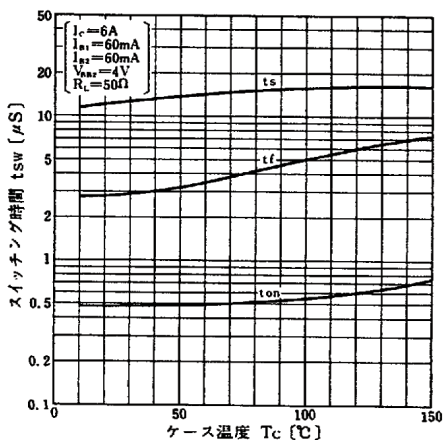
飽和特性 Saturation Voltage Characteristics



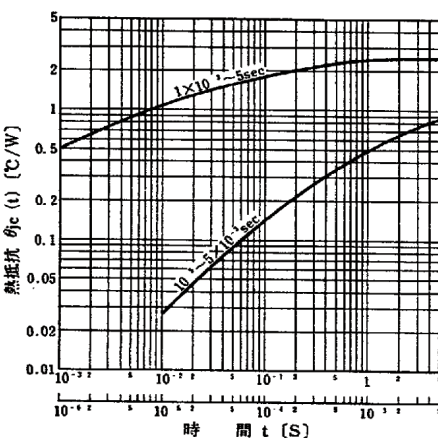
スイッチング時間—Ic Switching Time—Ic



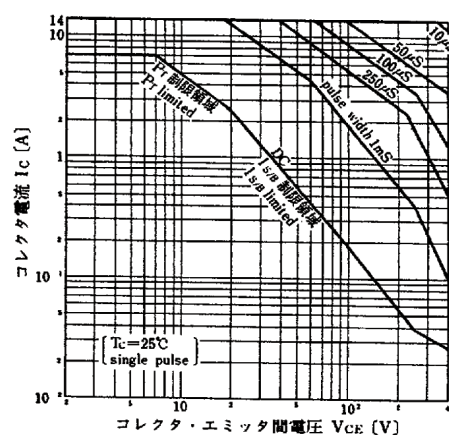
スイッチング時間—Tc Switching Time—Tc



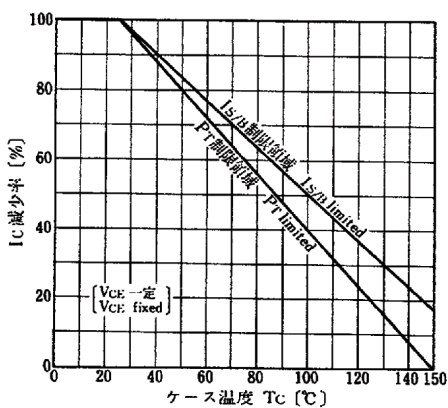
過渡熱抵抗 θjc(t) Transient Thermal Impedance



順バイアス SOA Forward Bias SOA



コレクタ電流減少率 Dissipation and Is/β Derating Curve



逆バイアス SOA Reverse Bias SOA

