

# NPN TRIPLE DIFFUSED KSD5071 PLANAR SILICON TRANSISTOR

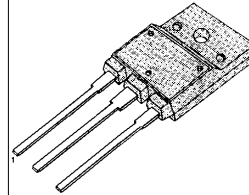
## COLOR TV HORIZONTAL OUTPUT APPLICATION (DAMPER DIODE BUILT IN)

- High Collector-Base Voltage ( $V_{CBO}=1500V$ )
- High Switching Speed ( $t_F$ : max=0.4 $\mu s$ )

## ABSOLUTE MAXIMUM RATING

| Characteristic                             | Symbol    | Rating    | Unit       |
|--------------------------------------------|-----------|-----------|------------|
| Collector Base Voltage                     | $V_{CBO}$ | 1500      | V          |
| Collector Emitter Voltage                  | $V_{CEO}$ | 800       | V          |
| Emitter Base Voltage                       | $V_{EBO}$ | 6         | V          |
| Collector Current (DC)                     | $I_C$     | 3.5       | A          |
| Collector Current (Pulse)                  | $I_C$     | 10        | A          |
| Collector Dissipation ( $T_C=25^\circ C$ ) | $P_C$     | 50        | W          |
| Junction Temperature                       | $T_J$     | 150       | $^\circ C$ |
| Storage Temperature                        | $T_{STG}$ | -55 ~ 150 | $^\circ C$ |

TO-3PF

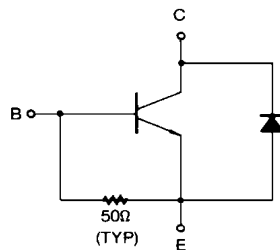


1.Base 2.Collector 3.Emitter

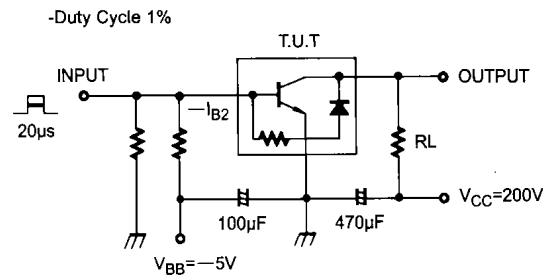
## ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ C$ )

| Characteristic                       | Symbol        | Test Condition                                                                     | Min | Typ | Max | Unit    |
|--------------------------------------|---------------|------------------------------------------------------------------------------------|-----|-----|-----|---------|
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB} = 800V, I_E = 0$                                                           |     |     | 10  | $\mu A$ |
| Emitter Cutoff Current               | $I_{EBO}$     | $V_{EB} = 4V, I_C = 0$                                                             | 40  |     | 200 | mA      |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 5V, I_C = 0.5A$                                                          | 8   |     |     |         |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 2.5A, I_B = 0.8A$                                                           |     |     | 8   | V       |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = 2.5A, I_B = 0.8A$                                                           |     |     | 1.5 | V       |
| Current Gain Bandwidth Product       | $f_T$         | $V_{CE} = 10V, I_C = 0.5A$                                                         |     | 3   |     | MHz     |
| Damper Diode Turn On Voltage         | $V_F$         | $I_F = 3.5A$                                                                       |     |     | 2   | V       |
| Fall Time                            | $t_F$         | $I_C = 3A, I_{B1} = 0.8A$<br>$I_{B2} = -1.6A, V_{CC} = 200V$<br>$R_L = 66.7\Omega$ |     |     | 0.4 | $\mu s$ |

### -EQUIVALENT CIRCUIT



### -SWITCHING TIME TEST CIRCUIT



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