

# KSD5090

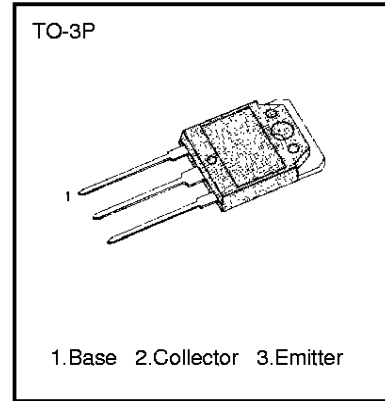
# NPN TRIPLE DIFFUSED PLANAR SILICON TRANSISTOR

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

- High Collector-Base Voltage ( $V_{CBO}=1500V$ )
- High Speed Switching ( $t_F = 0.1\mu s$ )

### ABSOLUTE MAXIMUM RATINGS

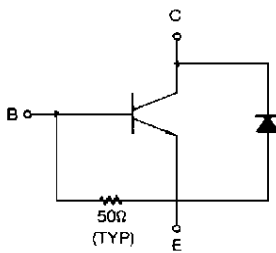
| Characteristic                             | Symbol    | Rating    | Unit       |
|--|-----------|-----------|------------|
| Collector Base Voltage                     | $V_{CBO}$ | 1500      | V          |
| Collector Emitter Voltage                  | $V_{CEO}$ | 800       | V          |
| Emitter Base Voltage                       | $V_{BE0}$ | 6         | V          |
| Collector Current (DC)                     | $I_C$     | 8         | A          |
| Collector Current (Pulse)                  | $I_C$     | 30        | A          |
| Collector Dissipation ( $T_C=25^\circ C$ ) | $P_C$     | 150       | W          |
| Junction Temperature                       | $T_J$     | 150       | $^\circ C$ |
| Storage Temperature                        | $T_{STG}$ | -55 ~ 150 | $^\circ C$ |



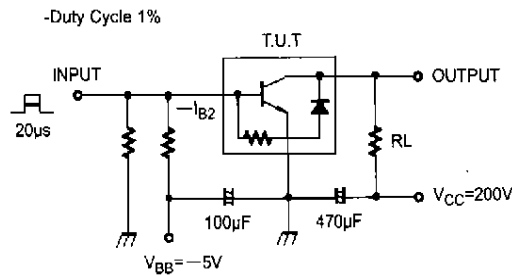
### ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ C$ )

| Characteristic                          | Symbol        | Test Condition   | Min | Typ | Max | Unit    |
|---|---------------|--|-----|-----|-----|---------|
| Collector Cutoff Current ( $V_{BE}=0$ ) | $I_{CES}$     | $V_{CE} = 1500V, R_{BE} = 0$   |     |     | 1   | mA      |
| 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                         | $h_{FE1}$     | $V_{CE} = 5V, I_C = 1.0A$  | 8   |     |     |         |
|   | $h_{FE2}$     | $V_{CE} = 5V, I_C = 6.0A$  | 5   |     |     |         |
| Collector Emitter Saturation Voltage    | $V_{CE(sat)}$ | $I_C = 6A, I_B = 1.2A$   |     |     | 5.0 | V       |
| Base Emitter Saturation Voltage         | $V_{BE(sat)}$ | $I_C = 6A, I_B = 1.2A$   |     |     | 1.5 | V       |
| Damper Diode Turn On Voltage            | $V_F$         | $I_F = 8A$   |     |     | 2.0 | V       |
| Fall Time                               | $t_F$         | $I_C = 6A, I_{B1} = 1.2A$<br>$I_{B2} = -2.4A$<br>$V_{CC} = 200V, R_L = 33.3\Omega$ |     | 0.1 | 0.3 | $\mu s$ |

-EQUIVALENT CIRCUIT



-SWITCHING TIME TEST CIRCUIT



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| FACT Quiet Series™   | Quiet Series™ |
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