

## Silicon NPN Power Transistors

2SC4763

## DESCRIPTION

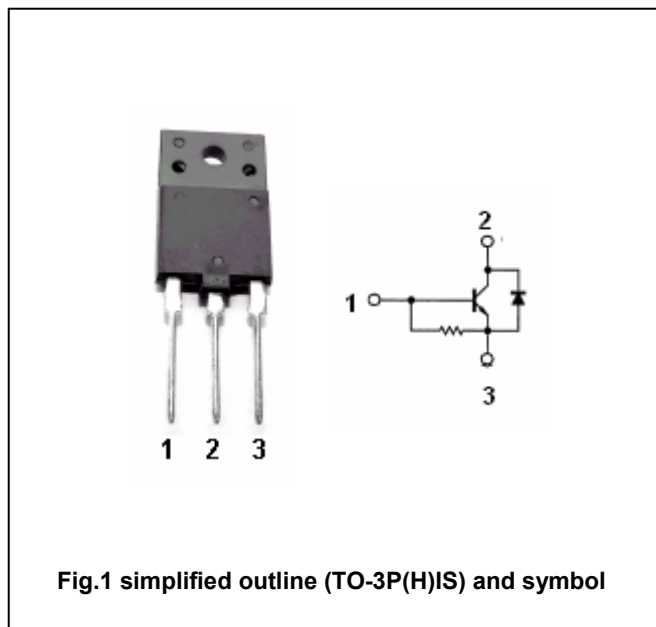
- With TO-3P(H)IS package
- High speed ,high speed
- Low saturation voltage
- Bult-in damper diode

## APPLICATIONS

- Horizontal deflection output for medium resolution display

## PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Collector   |
| 3   | Emitter     |

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                   | CONDITIONS             | VALUE    | UNIT             |
|-----------|-----------------------------|------------------------|----------|------------------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter           | 1500     | V                |
| $V_{CEO}$ | Collector-emitter voltage   | Open base              | 600      | V                |
| $V_{EBO}$ | Emitter-base voltage        | Open collector         | 5        | V                |
| $I_C$     | Collector current           |                        | $\pm 8$  | A                |
| $I_{CM}$  | Collector current-Peak      |                        | $\pm 16$ | A                |
| $I_B$     | Base current                |                        | 4        | A                |
| $P_C$     | Collector power dissipation | $T_C=25^\circ\text{C}$ | 50       | W                |
| $T_j$     | Junction temperature        |                        | 150      | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature         |                        | -55~150  | $^\circ\text{C}$ |

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## CHARACTERISTICS

Tj=25°C unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                        | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|-----------------------------------|-----|------|-----|------|
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=300mA$ ; $I_C=0$             | 5   |      |     | V    |
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C=6A$ ; $I_B=1.2A$             |     |      | 5   | V    |
| $V_{BEsat}$   | Base-emitter saturation voltage      | $I_C=6A$ ; $I_B=1.2A$             |     |      | 1.5 | V    |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=1500V$ ; $I_E=0$          |     |      | 1   | mA   |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB}=5V$ ; $I_C=0$             | 83  |      | 250 | mA   |
| $h_{FE-1}$    | DC current gain                      | $I_C=1A$ ; $V_{CE}=5V$            | 8   | 12   |     |      |
| $h_{FE-2}$    | DC current gain                      | $I_C=6A$ ; $V_{CE}=5V$            | 5   |      | 9   |      |
| $C_{ob}$      | Collector output capacitance         | $I_E=0$ ; $V_{CB}=10V$ , $f=1MHz$ |     | 170  |     | pF   |
| $V_F$         | Diode forward voltage                | $I_F=6A$                          |     | 1.3  | 1.8 | V    |
| $f_T$         | Transition frequency                 | $I_C=0.1A$ ; $V_{CE}=10V$         | 1   | 3    |     | MHz  |

Switching times resistive load

|       |              |                                                                |  |     |     |         |
|-------|--------------|----------------------------------------------------------------|--|-----|-----|---------|
| $t_s$ | Storage time | $I_{CP}=6A$ ; $I_{B1}=1.2A$<br>$I_{B2}=-2.4A$ ; $R_L=33\Omega$ |  | 1.8 | 3.0 | $\mu s$ |
| $t_f$ | Fall time    |                                                                |  | 0.1 | 0.2 | $\mu s$ |

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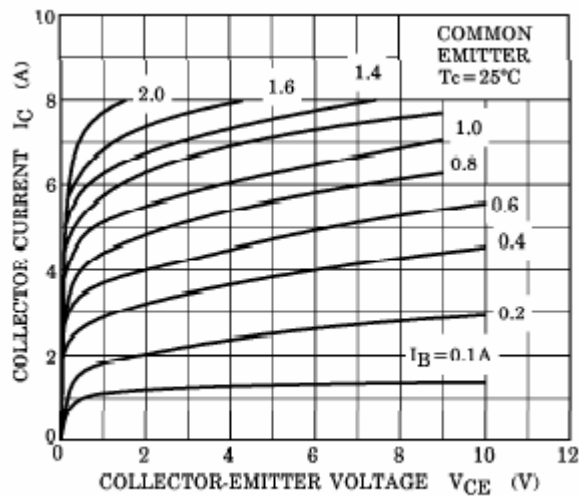


Fig.3 Static Characteristic

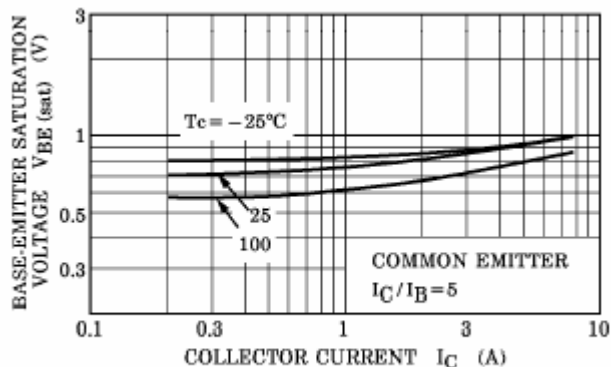


Fig.5 Base-Emitter Saturation Voltage

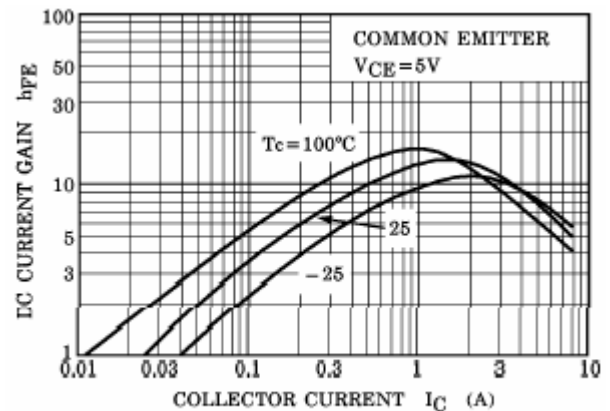


Fig.4 DC current Gain

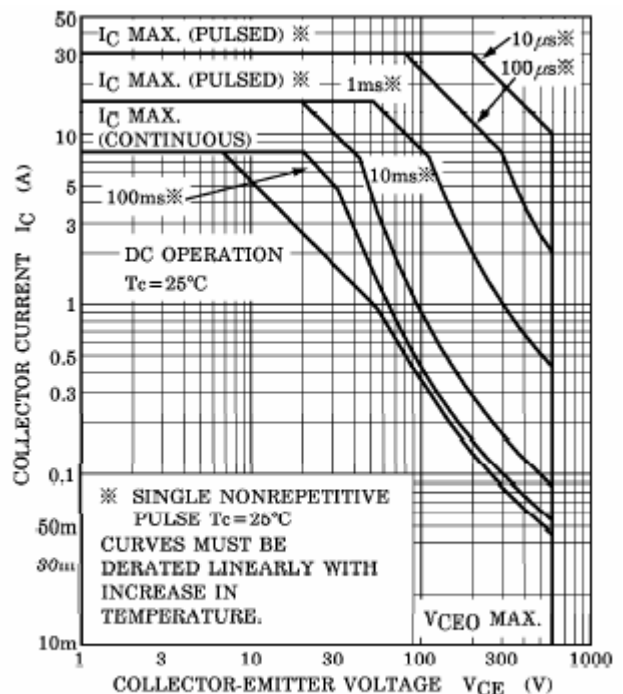


Fig.6 Safe Operating Area