

isc Silicon NPN Power Transistor

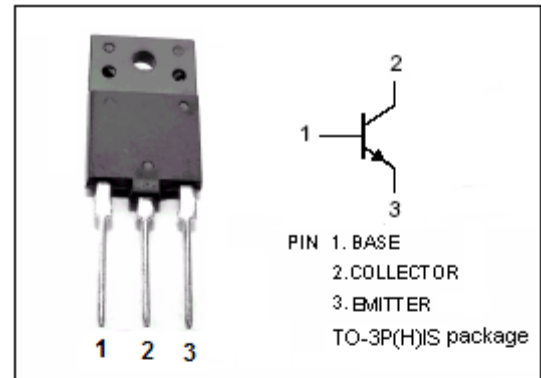
2SC5803

DESCRIPTION

- High Breakdown Voltage-  
:  $V_{CBO}=1500V$  (Min)
- High Switching Speed
- Wide Area of Safe Operation

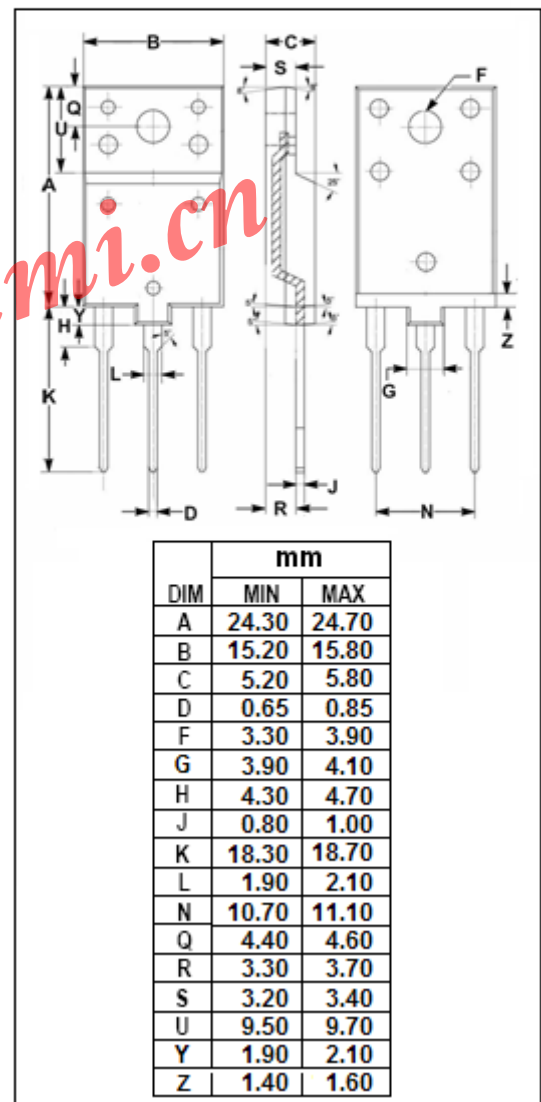
APPLICATIONS

- Designed for high voltage color display horizontal deflection output applications.



ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}C$ )

| SYMBOL    | PARAMETER                                       | VALUE   | UNIT        |
|-----------|---|---------|-------------|
| $V_{CBO}$ | Collector-Base Voltage                          | 1500    | V           |
| $V_{CEO}$ | Collector-Emitter Voltage                       | 800     | V           |
| $V_{EBO}$ | Emitter-Base Voltage                            | 6       | V           |
| $I_C$     | Collector Current- Continuous                   | 12      | A           |
| $I_{CM}$  | Collector Current- Peak                         | 24      | A           |
| $P_C$     | Collector Power Dissipation @ $T_C=25^{\circ}C$ | 70      | W           |
| $T_J$     | Junction Temperature                            | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                       | -55~150 | $^{\circ}C$ |



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                        | MIN | TYP. | MAX | UNIT          |
|---------------|--------------------------------------|-----------------------------------|-----|------|-----|---------------|
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=8\text{A}; I_B=2\text{A}$    |     |      | 3.0 | V             |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C=8\text{A}; I_B=2\text{A}$    |     |      | 1.5 | V             |
| $I_{CES}$     | Collector Cutoff Current             | $V_{CE}=1400\text{V}; V_{BE}=0$   |     |      | 1.0 | mA            |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}=800\text{V}; I_E=0$       |     |      | 10  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}=4\text{V}; I_C=0$         |     |      | 1.0 | mA            |
| $h_{FE-1}$    | DC Current Gain                      | $I_C=1\text{A}; V_{CE}=5\text{V}$ |     | 15   | 40  |               |
| $h_{FE-2}$    | DC Current Gain                      | $I_C=8\text{A}; V_{CE}=5\text{V}$ | 5.5 |      | 8.5 |               |

## Switching Times

|           |              |   |  |  |     |               |
|-----------|--------------|---|--|--|-----|---------------|
| $t_{stg}$ | Storage Time | $I_C=7\text{A}; I_{B1}=1.4\text{A}; I_{B2}=-2.8\text{A};$<br>$V_{CC}=200\text{V}; R_L=28.6\ \Omega$ |  |  | 4.0 | $\mu\text{s}$ |
| $t_f$     | Fall Time    |   |  |  | 0.3 | $\mu\text{s}$ |