

Silicon NPN Power Transistor

2SD1545

DESCRIPTION

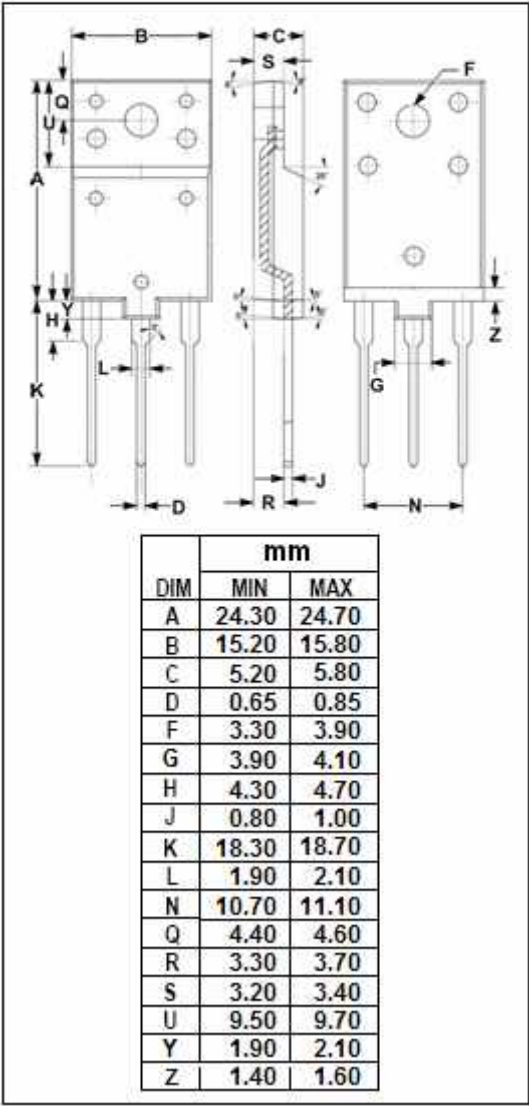
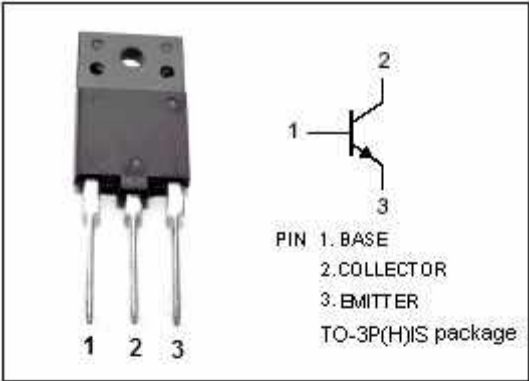
- High Breakdown Voltage-  
:  $V_{CBO}=1500V$  (Min)
- High Switching Speed
- Low Saturation Voltage

APPLICATIONS

- Color TV horizontal output applications
- Switching regulator 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                          | 600     | V           |
| $V_{EBO}$ | Emitter-Base Voltage                               | 5       | V           |
| $I_C$     | Collector Current- Continuous                      | 5       | A           |
| $I_B$     | Base Current- Continuous                           | 2.5     | A           |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^{\circ}C$ | 50      | W           |
| $T_J$     | Junction Temperature                               | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                          | -55~150 | $^{\circ}C$ |



**Silicon NPN Power Transistor****2SD1545****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 | $I_C= 4.0\text{A}$ ; $I_B= 0.8\text{A}$                     |     |      | 5.0 | V             |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C= 4.0\text{A}$ ; $I_B= 0.8\text{A}$                     |     |      | 1.5 | V             |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}= 500\text{V}$ ; $I_E= 0$                            |     |      | 10  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}= 5\text{V}$ ; $I_C= 0$                              |     |      | 1.0 | mA            |
| $h_{FE}$      | DC Current Gain                      | $I_C= 1\text{A}$ ; $V_{CE}= 5\text{V}$                      | 8   |      |     |               |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C= 0.1\text{A}$ ; $V_{CE}= 10\text{V}$                   |     | 3    |     | MHz           |
| $C_{OB}$      | Output Capacitance                   | $I_E= 0$ ; $V_{CB}= 10\text{V}$ ; $f_{test}= 1.0\text{MHz}$ |     | 165  |     | pF            |
| $t_f$         | Fall Time                            | $I_{CP}= 4\text{A}$ , $I_{B1(end)}= 0.8\text{A}$            |     | 0.5  | 1.0 | $\mu\text{s}$ |

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