

### 2SD880 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$P_{CM}$ : 1.5 W ( $T_{amb}=25^{\circ}C$ )

Collector current

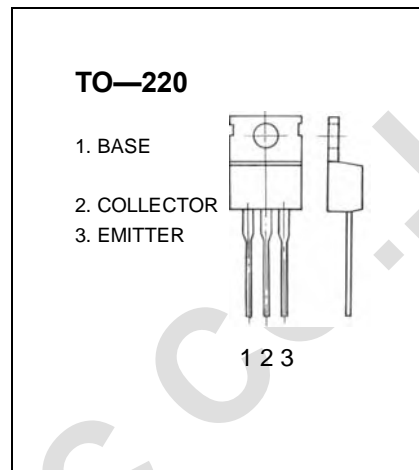
$I_{CM}$ : 3 A

Collector-base voltage

$V_{(BR)CBO}$ : 60 V

Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$



#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                           | MIN | TYP | MAX | UNIT    |
|--------------------------------------|---------------|-----------------------------------------------------------|-----|-----|-----|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$                                     | 60  |     |     | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=50mA, I_B=0$                                         | 60  |     |     | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$                                     | 7   |     |     | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=60V, I_E=0$                                       |     |     | 100 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=7V, I_C=0$                                        |     |     | 100 | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=5V, I_C=500mA$                                    | 60  |     | 300 |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=3A, I_B=300mA$                                       |     |     | 1   | V       |
| Base-emitter saturation voltage      | $V_{BE}$      | $I_C=0.5A, V_{CE}=5V$                                     |     |     | 1   | V       |
| Transition Frequency                 | $f_T$         | $V_{CE}=5V, I_C=500mA$                                    |     | 3   |     | MHz     |
| Collector output capacitance         | $C_{ob}$      | $V_{CE}=10V, I_E=0, f=1MHz$                               |     | 70  |     | pF      |
| Turn on time                         | $t_{on}$      | $I_{B1}=-I_{B2}=0.2A, I_C=2A$<br>$V_{CC}=30V, PW=20\mu s$ |     | 0.8 |     | $\mu s$ |
| Storage time                         | $t_s$         |                                                           |     | 1.5 |     | $\mu s$ |
| Fall time                            | $t_f$         |                                                           |     | 0.8 |     | $\mu s$ |

#### CLASSIFICATION OF $h_{FE}$

| Rank  | O      | Y       | GR      |
|-------|--------|---------|---------|
| Range | 60-120 | 100-200 | 150-300 |