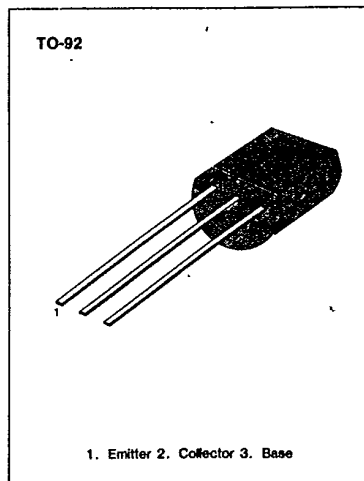


**KSC2001****NPN SILICON TRANSISTOR**

T-29-21

**GENERAL PURPOSE APPLICATIONS**  
**HIGH TOTAL POWER DISSIPATION**  
**(PT=600 mW)**
High  $h_{FE}$  and LOW  $V_{CE(sat)}$ **ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )**

| Characteristic            | Symbol    | Rating  | Unit             |
|---------------------------|-----------|---------|------------------|
| Collector-Base Voltage    | $V_{CBO}$ | 30      | V                |
| Collector-Emitter Voltage | $V_{CEO}$ | 25      | V                |
| Emitter-Base Voltage      | $V_{EBO}$ | 5       | V                |
| Collector Current         | $I_C$     | 700     | mA               |
| Base Current              | $I_B$     | 150     | mA               |
| Collector Dissipation     | $P_C$     | 600     | mW               |
| Junction Temperature      | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature       | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |



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**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )**

| Characteristic                         | Symbol        | Test Condition             | Min | Typ  | Max | Unit |
|--|---------------|----------------------------|-----|------|-----|------|
| * Base Emitter Voltage                 | $V_{BE}$      | $V_{CE}=6V, I_C=10mA$      | 600 | 640  | 700 | mV   |
| Collector Cutoff Current               | $I_{CBO}$     | $V_{CB}=30V, I_E=0$        |     |      | 100 | nA   |
| Emitter Cutoff Current                 | $I_{EBO}$     | $V_{EB}=5V, I_C=0$         |     |      | 100 | nA   |
| * DC Current Gain                      | $h_{FE1}$     | $V_{CE}=1V, I_C=100mA$     | 90  | 200  | 400 |      |
|  | $h_{FE2}$     | $V_{CE}=1V, I_C=700mA$     | 50  | 140  |     |      |
| * Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=700mA, I_B=70mA$      |     | 0.2  | 0.6 | V    |
| * Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=700mA, I_B=70mA$      |     | 0.95 | 1.2 | V    |
| Output Capacitance                     | $C_{ob}$      | $V_{CB}=6V, I_E=0, f=1MHz$ |     | 13   | 25  | pF   |
| Current Gain Bandwidth Product         | $f_T$         | $V_{CE}=6V, I_E=10mA$      | 50  | 170  |     | MHz  |

\* Pulse test: PW  $\leq$  350  $\mu\text{s}$ , duty cycle  $\leq$  2% Pulsed **$h_{FE1}$  CLASSIFICATION**

| Classification | R      | O       | Y       |
|----------------|--------|---------|---------|
| $h_{FE1}$      | 90-180 | 135-270 | 200-400 |

