

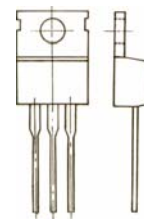


JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

**TO-220 Plastic-Encapsulate Transistors****KTD2058** TRANSISTOR (NPN)

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



1 2 3

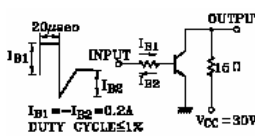
**FEATURES**

- Low Collector Saturation Voltage

:  $V_{CE(SAT)} = 1.0V(MAX)$  .**MAXIMUM RATINGS** ( $T_A=25^{\circ}C$  unless otherwise noted)

| Symbol    | Parameter                     | Value   | Units       |
|-----------|-------------------------------|---------|-------------|
| $V_{CBO}$ | Collector-Base Voltage        | 60      | V           |
| $V_{CEO}$ | Collector-Emitter Voltage     | 60      | V           |
| $V_{EBO}$ | Emitter-Base Voltage          | 7       | V           |
| $I_C$     | Collector Current -Continuous | 3       | A           |
| $P_C$     | Collector Power Dissipation   | 2       | W           |
| $T_j$     | Junction Temperature          | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range     | -55-150 | $^{\circ}C$ |

**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                      |              | $h_{FE}$      | $V_{CE}=5V, I_C=0.5A$                                                                | 60  |      | 200 |         |
| Collector-emitter saturation voltage |              | $V_{CE(sat)}$ | $I_C=2A, I_B=0.2A$                                                                   |     |      | 1   | V       |
| Base-emitter voltage                 |              | $V_{BE(on)}$  | $V_{CE}=5V, I_C=0.5A$                                                                |     |      | 1   | V       |
| Transition frequency                 |              | $f_T$         | $V_{CE}=5V, I_C=0.5A$                                                                |     | 3    |     | MHz     |
| Collector output capacitance         |              | $C_{ob}$      | $V_{CB}=10V, I_E=0, f=1MHz$                                                          |     | 35   |     | pF      |
| Switching time                       | Turn-on Time | $t_{on}$      |  |     | 0.65 |     | US      |
|                                      | Storage Time | $t_{stg}$     |                                                                                      |     | 1.3  |     |         |
|                                      | Fall Time    | $t_f$         |                                                                                      |     | 0.65 |     |         |

**CLASSIFICATION OF  $h_{FE}$** 

| Rank  | O      | Y       |
|-------|--------|---------|
| Range | 60-120 | 100-200 |

# Typical Characteristics

KTD2058

