



KTD863

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

TRIPLE DIFFUSED NPN TRANSISTOR

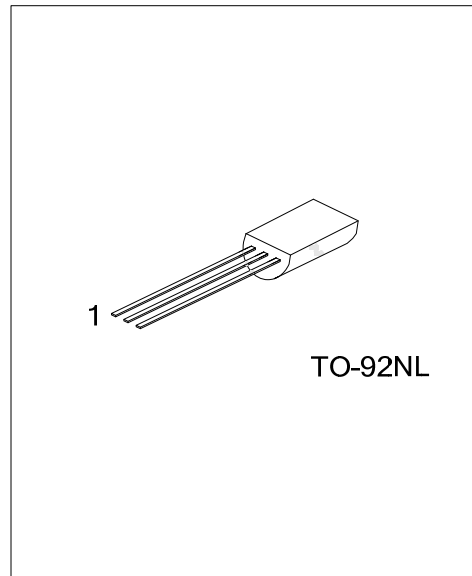
■ DESCRIPTION

The UTC **KTD863** is a triple diffused NPN transistor. it uses UTC's advanced technology to provide customers with high collector-emitter breakdown voltage and high collector current capability, etc.

The UTC **KTD863** is suitable for voltage regulator, relay and ramp driver, etc.

■ FEATURES

- * High collector-emitter voltage
- * High collector current capability



■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|-----------------|---------|----------------|---|---|----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| KTD863L-x-T9N-B | KTD863G-x-T9N-B | TO-92NL | E | C | B | Tape Box |
| KTD863L-x-T9N-K | KTD863G-x-T9N-K | TO-92NL | E | C | B | Bulk |

| | |
|------------------------|---|
| <p>KTD863L-x-T9N-B</p> | <p>(1) B: Tape Box, K: Bulk (2) T9N: TO-92NL (3) refer to CLASSIFICATION OF h_{FE1} (4) L: Lead Free, G: Halogen Free</p> |
|------------------------|---|

■ MARKING INFORMATION

| PACKAGE | MARKING |
|---------|---------|
| TO-92NL | |

■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|------------------------------|-------|-----------|----------|------------------|
| Collector-Base Voltage | | V_{CBO} | 60 | V |
| Collector-Emitter Voltage | | V_{CEO} | 60 | V |
| Emitter-Base Voltage | | V_{EBO} | 5 | V |
| Continuous Collector Current | DC | I_C | 1 | A |
| | Pulse | I_{CP} | 2 | A |
| Collector Power Dissipation | | P_C | 1 | W |
| Junction Temperature | | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_{STG} | -55~+150 | $^\circ\text{C}$ |

Note: Absolute maximum ratings are stress ratings only and functional device operation is not implied.

Absolute maximum ratings are those values beyond which the device could be permanently damaged.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|-----|---------------|
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C=1\text{mA}, I_B=0$ | 60 | | | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=50\text{V}, I_E=0$ | | | 1 | μA |
| Emitter Cut-Off Current | I_{EBO} | $V_{EB}=4\text{V}, I_C=0$ | | | 1 | μA |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | 0.15 | 0.5 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | 0.85 | 1.2 | V |
| DC Current Gain | h_{FE1} | $I_C=50\text{mA}, V_{CE}=2\text{V}$ | 60 | | 320 | |
| | h_{FE2} | $I_C=1\text{A}, V_{CE}=2\text{V}$ | 30 | | | |
| Transition Frequency | f_T | $I_C=50\text{mA}, V_{CE}=10\text{V}$ | | 150 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB}=10\text{V}, f=1\text{MHz}, I_E=0$ | | 12 | | pF |

■ CLASSIFICATION OF h_{FE1}

| RANK | O | Y | GR |
|-------|--------|---------|---------|
| RANGE | 60~120 | 100~200 | 160~320 |

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