



2SD2403

Preliminary

NPN SILICON TRANSISTOR

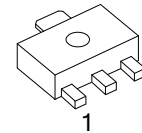
LOW-FREQUENCY POWER AMPLIFIERS AND MID-SPEED SWITCHING

DESCRIPTION

The UTC **2SD2403** is a transistor featuring high current capacitance in small dimension. This transistor is ideal for DC/DC converters and motor drivers.

FEATURES

- * High current capacitance
- * Low collector saturation voltage



SOT-89

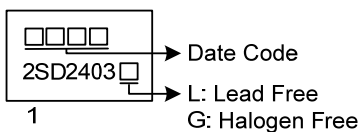
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|----------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 2SD2403L-AB3-R | 2SD2403G-AB3-R | SOT-89 | E | C | B | Tape Reel |

Note: Pin assignment: E: Emitter C: Collector B: Base

| | |
|----------------|--|
| 2SD2403G-AB3-R | |
| | (1) R: Tape Reel (2) AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free |

MARKING



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

| PARAMETER | SYMBOL | RATINGS | UNIT |
|--------------------------------|-----------|------------|------------------|
| Collector-Base Voltage | V_{CBO} | 80 | V |
| Collector-Emitter Voltage | V_{CEO} | 60 | V |
| Emitter-Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_C | 3 | A |
| Collector Current (Pulse) | I_{CP} | 5 | A |
| Base Current | I_B | 0.2 | A |
| Base Current (Pulse) | I_{BP} | 0.4 | A |
| Collector Dissipation (Note 2) | P_C | 2 | W |
| Junction Temperature | T_J | +150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55 ~ +150 | $^\circ\text{C}$ |

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

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

2. Mounted on ceramic board ($16\text{ cm}^2 \times 0.7\text{ mm}$)

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

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---------------|--|-----|-----|-----|------|
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=80\text{V}$, $I_E=0$ | | | 100 | nA |
| Emitter Cut-Off Current | I_{EBO} | $V_{EB}=6.0\text{V}$, $I_C=0$ | | | 100 | nA |
| DC Current Gain | h_{FE1} | $V_{CE}=2.0\text{V}$, $I_C=0.1\text{A}$ | 80 | | 250 | |
| | h_{FE2} | $V_{CE}=2.0\text{V}$, $I_C=1.0\text{A}$ | 100 | | 200 | |
| DC Base Voltage | V_{BE} | $V_{CE}=2.0\text{V}$, $I_C=0.1\text{A}$ | 630 | | 730 | mV |
| Collector to Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=2.0\text{A}$, $I_B=0.1\text{A}$ | | | 300 | mV |
| | | $I_C=3.0\text{A}$, $I_B=0.15\text{A}$ | | | 500 | mV |
| Base to Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=2.0\text{A}$, $I_B=0.1\text{A}$ | | | 1.2 | V |
| Gain Bandwidth Product | f_T | $V_{CE}=10\text{V}$, $I_E=-0.3\text{A}$ | | 130 | | MHz |

■ CLASSIFICATION OF h_{FE1}

| RANK | GX | GY | GZ |
|-------|-----------|-----------|-----------|
| RANGE | 100 ~ 200 | 160 ~ 320 | 200 ~ 400 |

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