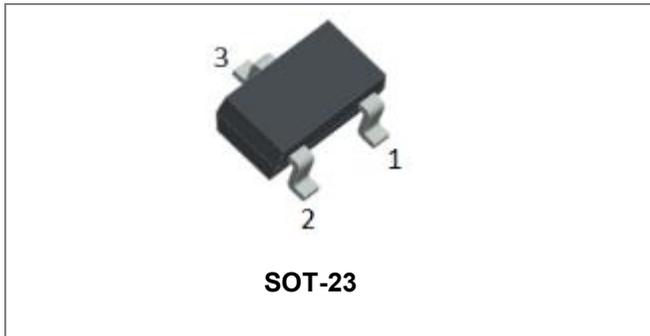


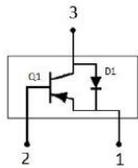
SSTX304S PNP General Purpose Amplifier



Features

- Low saturation Voltage(Transistor)
: $V_{CE(sat)} = -0.4V(\text{Max.})$; $I_C = -150mA$, $I_B = -15mA$
Fast Reverse Recovery Time(Diode)
- Capable of 350mWatts of Power Dissipation
- Operating and Storage Junction Temperatures: $-55^{\circ}C$ to $150^{\circ}C$
- Surface Mount SOT-23 Package
- RoHS compliant / Green EMC
- Collector current: $I_C = -0.6A$

Schematic & Pin Configuration



1. EMITTER/CATHODE
2. BASE
3. COLLECTOR/ANODE

Mechanical Characteristics

- Case: SOT-23, Molded Plastic
- Terminals: Plated leads Solderable per MIL-STD-202, Method 208
- Mounting Position: Any

Maximum Ratings@ $T_A = 25^{\circ}C$ unless otherwise specified

TRANSISTOR(Q1)

| Characteristic | Symbol | Limits | Unit |
|------------------------|-----------|--------|------|
| Collector-Base Voltage | V_{CBO} | -60 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -0.6 | A |

DIODE(D1)

| Characteristic | Symbol | Limits | Unit |
|--------------------------------|-----------|--------|------|
| Maximum (peak) Forward Current | I_{FM} | 450 | mA |
| Average Forward Current | I_O | 150 | mA |
| Surge Current (100uS) | I_{FSM} | 2 | A |

COMMON

| Characteristic | Symbol | Limits | Unit |
|-----------------------------------|-----------|---------|-------------|
| Maximum Output (Pin1-Pin3)Voltage | V_O | -60 | V |
| Power Dissipation | P_C | 350 | mW |
| Junction Temperature Range | T_j | 150 | $^{\circ}C$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^{\circ}C$ |

Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified
TRANSISTOR(Q1)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|--------------------------------------|---------------|--|------|------|--------------|------|
| Collector-base breakdown voltage | V_{CBO} | $I_C=-10\mu\text{A}, I_E=0$ | -60 | | | V |
| Emitter-base breakdown voltage | V_{EBO} | $I_E=-10\mu\text{A}, I_C=0$ | -5 | | | V |
| Collector cutoff current | I_{CBO} | $V_{CB}=-50\text{V}, I_E=0$ | | | -10 | nA |
| DC current gain | h_{FE} | $h_{FE(1)} I_C=-0.1\text{mA}, V_{CE}=-10\text{V}^*$ | 75 | | | |
| | | $h_{FE(2)} I_C=-1\text{mA}, V_{CE}=-10\text{V}^*$ | 100 | | | |
| | | $h_{FE(3)} I_C=-10\text{mA}, V_{CE}=-10\text{V}^*$ | 100 | | | |
| | | $h_{FE(4)} I_C=-150\text{mA}, V_{CE}=-10\text{V}^*$ | 100 | | 300 | |
| | | $h_{FE(5)} I_C=-500\text{mA}, V_{CE}=-10\text{V}^*$ | 50 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-150\text{mA}, I_B=-15\text{mA}^*$ $I_C=-500\text{mA}, I_B=-50\text{mA}^*$ | | | -0.4 -1.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=-150\text{mA}, I_B=-15\text{mA}^*$ $I_C=-500\text{mA}, I_B=-50\text{mA}^*$ | | | -1.3 -2.6 | V |
| Input Capacitance | C_{ib} | $V_{EB}=-2\text{V}, I_C=0, f=1.0\text{MHZ}$ | | 17.5 | | pF |

* Measured under pulsed conditions, Pulse width < 300 μs , duty cycle < 2%

DIODE(D1)

| Characteristics | Symbol | Condition | Min. | Typ. | Max. | Units |
|----------------------|----------|--------------------|------|------|------|-------|
| Forward Voltage Drop | V_{F1} | $I_F=1\text{mA}$ | | 0.60 | | V |
| | | $I_F=10\text{mA}$ | | 0.72 | | |
| | | $I_F=100\text{mA}$ | | 0.90 | 1.2 | |

COMMON

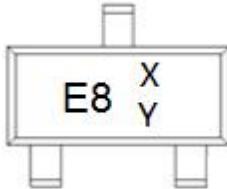
| Characteristics | Symbol | Condition | Min. | Typ. | Max. | Units |
|------------------------|-------------------|---|------|------|------|---------------|
| Output Voltage | V_O | $I_O=-1\text{mA}, I_B=0$ | -60 | | | V |
| Output Leakage Current | $I_O(\text{off})$ | $V_O=-30\text{V}, V_{EB}=-0.5\text{V}$ | | | -0.5 | μA |
| Output Capacitance | C_{Ob} | $V_R=-10\text{V}, I_E=0, f=1\text{MHZ}$ | | 8.5 | | pF |

Ordering Information

| Device | Package | Shipping | Tape wide | Emboss pitch |
|----------|---------|-----------------|-----------|--------------|
| SSTX304S | SOT-23 | 3000 pcs / reel | 8mm | 4mm |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram

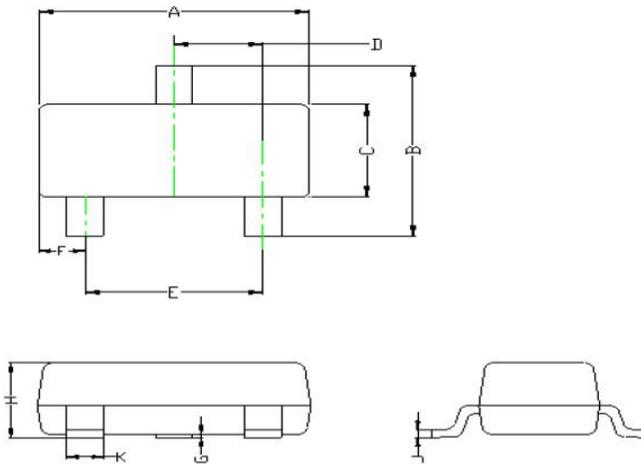


Where XY is date code

E8 = Marking code
X = Month code
Y = Lot code

| | | | | | | | | | | | | |
|---------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|
| X | A | B | C | D | E | F | G | H | J | K | L | M |
| Month code | January | February | March | April | May | June | July | August | September | October | November | December |
| Y Lot code | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | - | - |

Mechanical Dimensions SOT-23



| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | MIN. | MAX. |
| A | 2.800 | 3.040 |
| B | 2.100 | 2.640 |
| C | 1.200 | 1.400 |
| D | 0.890 | 1.030 |
| E | 1.780 | 2.050 |
| F | 0.450 | 0.600 |
| G | 0.013 | 0.100 |
| H | 0.900 | 1.110 |
| J | 0.090 | 0.180 |
| K | 0.370 | 0.510 |

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