

ON Semiconductor

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MSD1328-RT1, MSD1328-ST1

NPN Low Voltage Output Amplifiers - Surface Mount

Features

- Pb-Free Packages are Available

MAXIMUM RATINGS (T_A = 25°C)

| Rating | Symbol | Value | Unit |
|--------------------------------|----------------------|-------|------|
| Collector-Base Voltage | V _{(BR)CBO} | 25 | V |
| Collector-Emitter Voltage | V _{(BR)CEO} | 20 | V |
| Emitter-Base Voltage | V _{(BR)EBO} | 12 | V |
| Collector Current - Continuous | I _C | 500 | mA |
| Collector Current - Peak | I _{C(P)} | 1000 | mA |

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|----------------------|------------------|------------|------|
| Power Dissipation | P _D | 200 | mW |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{stg} | -55 ~ +150 | °C |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

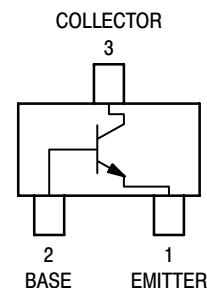
| Characteristic | Symbol | Min | Max | Unit |
|--|----------------------|-----|-----|------|
| Collector-Emitter Breakdown Voltage (I _C = 1.0 mA, I _B = 0) | V _{(BR)CEO} | 20 | - | V |
| Collector-Base Breakdown Voltage (I _C = 10 μA, I _E = 0) | V _{(BR)CBO} | 25 | - | V |
| Emitter-Base Breakdown Voltage (I _E = 10 μA, I _C = 0) | V _{(BR)EBO} | 12 | - | V |
| Collector-Base Cutoff Current (V _{CB} = 25 V, I _E = 0) | I _{CBO} | - | 0.1 | μA |
| DC Current Gain (Note 1) MSD1328-RT1 (V _{CE} = 2.0 V, I _C = 500 mA) MSD1328-ST1 | h _{FE} | 200 | 350 | - |
| Collector-Emitter Saturation Voltage (I _C = 500 mA, I _B = 20 mA) | V _{CE(sat)} | - | 0.4 | V |
| Base-Emitter Saturation Voltage (I _C = 500 mA, I _B = 50 mA) | V _{BE(sat)} | - | 1.2 | V |

1. Pulse Test: Pulse Width ≤ 300 μs, D.C. ≤ 2%.



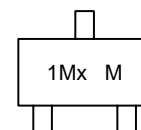
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SC-59
CASE 318D

MARKING DIAGRAM



x = R for RT1
S for ST1
M = Date Code

ORDERING INFORMATION

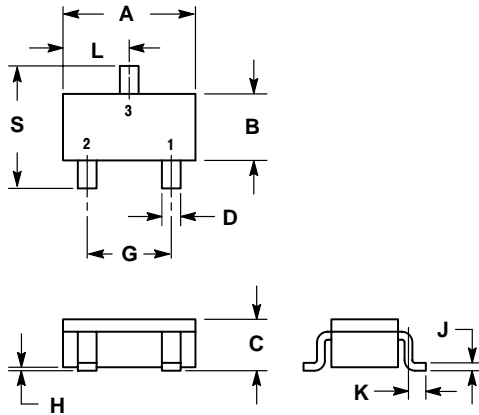
| Device | Package | Shipping† |
|--------------|--------------------|------------------|
| MSD1328-RT1 | SC-59 | 3000 Tape & Reel |
| MSD1328-RT1G | SC-59 (Pb-Free) | 3000 Tape & Reel |
| MSD1328-ST1 | SC-59 | 3000 Tape & Reel |
| MSD1328-ST1G | SC-59 (Pb-Free) | 3000 Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

MSD1328-RT1, MSD1328-ST1

PACKAGE DIMENSIONS

SC-59
CASE 318D-04
ISSUE F



NOTES:

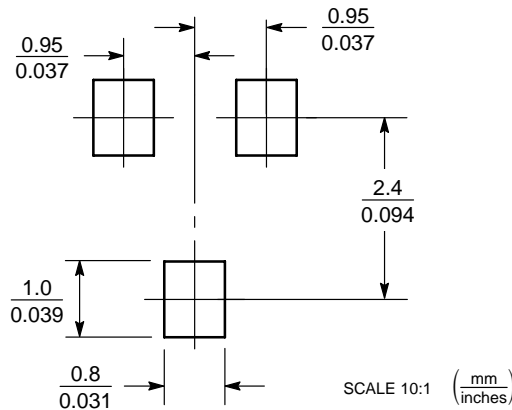
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|-------|--------|--------|
| | MIN | MAX | MIN | MAX |
| A | 2.70 | 3.10 | 0.1063 | 0.1220 |
| B | 1.30 | 1.70 | 0.0512 | 0.0669 |
| C | 1.00 | 1.30 | 0.0394 | 0.0511 |
| D | 0.35 | 0.50 | 0.0138 | 0.0196 |
| G | 1.70 | 2.10 | 0.0670 | 0.0826 |
| H | 0.013 | 0.100 | 0.0005 | 0.0040 |
| J | 0.09 | 0.18 | 0.0034 | 0.0070 |
| K | 0.20 | 0.60 | 0.0079 | 0.0236 |
| L | 1.25 | 1.65 | 0.0493 | 0.0649 |
| S | 2.50 | 3.00 | 0.0985 | 0.1181 |

STYLE 1:

- PIN 1. EMITTER
- BASE
- COLLECTOR

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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