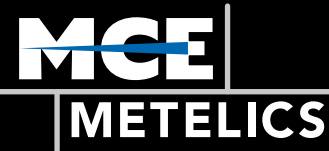


SURFACE MOUNT SOT23 AND SOD323 SCHOTTKY MIXERS AND DETECTOR DIODES



FEATURES

Surface Mount Package

Tape and Reel Available

Reliability

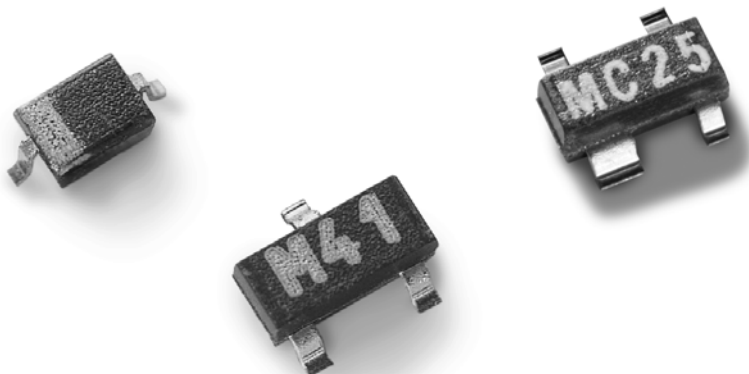
Gold Metallized Chip

Silicon Nitride/Oxide Passivation

Low Series Resistance

Low Capacitance

Wide Dynamic Range



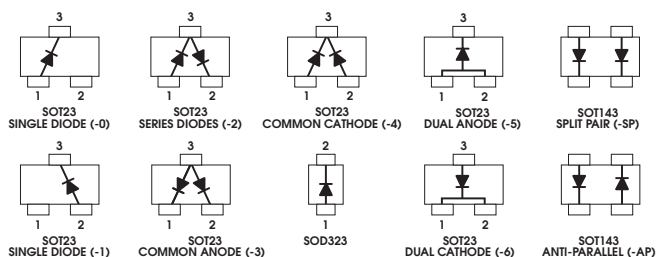
Specials are available upon request.

DESCRIPTION/APPLICATIONS

These Schottky diodes are specifically designed for commercial applications requiring devices in the SOT23 or SOD323 surface mount packages. The series in low profile has options for bulk or tape and reel. This series offers a wide range of specifications and package configurations to give the designer wide flexibility.

Typical applications of these Schottky diodes are up converters, down converters, mixers, detectors, phase detectors, pulse and amplitude modulators, and temperature compensation circuits.

Package Terminal Identification Code



SCHOTTKY DIODES ELECTRICAL SPECIFICATIONS @ 25°C

| Part Number | Package Outline | VBR Min. (V) @10uA | CT Max. (pF) @0V | VF @1mA Typ | RD @10mA Max. Ohms |
|-------------|-----------------|--------------------|------------------|-------------|--------------------|
| SMST3012 | SOT23-0,1,2,3,4 | 2.0 | 0.25 | 200-300mV | 15 |
| SMST4012 | SOT23-0,1,2,3,4 | 2.0 | 0.25 | 380-480mV | 15 |
| SMST6012 | SOT23-0,1,2,3,4 | 2.0 | 0.25 | 550-650mV | 15 |
| SMST3004 | SOT23-0,1,2,3,4 | 2.0 | 0.60 | 200-300mV | 10 |
| SMST4004 | SOT23-0,1,2,3,4 | 2.0 | 0.60 | 350-450mV | 10 |
| SMST6004 | SOT23-0,1,2,3,4 | 2.0 | 0.60 | 520-620mV | 10 |
| SMSD3012 | SOD323 | 2.0 | 0.25 | 200-300mV | 15 |
| SMSD4012 | SOD323 | 2.0 | 0.25 | 380-480mV | 15 |
| SMSD6012 | SOD323 | 2.0 | 0.25 | 550-650mV | 15 |
| SMSD3004 | SOD323 | 2.0 | 0.60 | 200-300mV | 10 |
| SMSD4004 | SOD323 | 2.0 | 0.60 | 350-450mV | 10 |
| SMSD6004 | SOD323 | 2.0 | 0.60 | 520-620mV | 10 |

MAXIMUM RATINGS

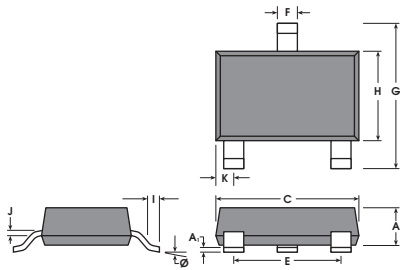
Operating/Storage Temperature Range ... -65°C to +150°C
 Max Power Dissipation (per Package) 250mW
 Measured in an infinite heat sink at $T_{CASE}=25^{\circ}C$.
 Derate linearly to zero at 150°C.
 Peak inverse Voltage (V_{IV}) Same as V_{BR}
 Forward Current (I_F) (1 μ s pulse) 1 Amp

PACKAGE CHARACTERISTICS

Lead Material Alloy 42
 Lead Finish Tin-Lead, 60-40%
 Maximum Soldering Temperature 260°C for 5 sec.
 Minimum Lead Strength 2 pounds pull
 Typical Package Inductance 2 nH
 Typical Package Capacitance 0.10 pF (opposite leads)

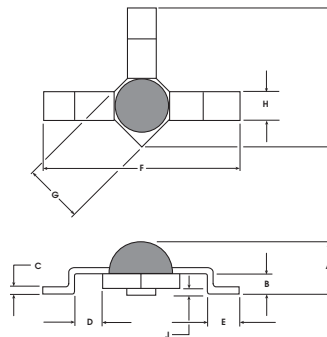
SOT23 PACKAGE OUTLINE

| | MILLIMETERS | | INCHES | |
|----------------|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.79 | 1.02 | 0.031 | 0.040 |
| A ₁ | 0.02 | 0.10 | 0.001 | 0.004 |
| C | 2.67 | 3.05 | 0.105 | 0.120 |
| E | 1.80 | 2.00 | 0.071 | 0.079 |
| F | 0.38 | 0.54 | 0.010 | 0.021 |
| G | 2.10 | 2.50 | 0.083 | 0.098 |
| H | 1.20 | 1.40 | 0.047 | 0.055 |
| I | 0.13 | 0.25 | 0.005 | 0.010 |
| J | 0.089 | 0.15 | 0.0035 | 0.059 |
| K | 0.44 | 0.55 | 0.017 | 0.022 |
| ∅ | 0.0 | 8.0 | 0.0 | 0.0 |



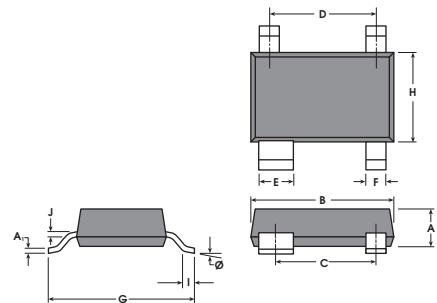
E35SM PACKAGE OUTLINE

| | MILLIMETERS | | INCHES | |
|---|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.53 | 0.76 | 0.021 | 0.030 |
| B | 0.20 | 0.36 | 0.008 | 0.014 |
| C | 0.08 | 0.13 | 0.003 | 0.05 |
| D | 0.30 | 0.46 | 0.012 | 0.018 |
| E | 0.56 | 0.71 | 0.022 | 0.028 |
| F | 3.76 | 4.01 | 0.148 | 0.158 |
| G | 1.19 | 1.35 | 0.047 | 0.053 |
| H | 0.33 | 0.43 | 0.013 | 0.017 |
| I | 2.77 | 2.92 | 0.109 | 0.115 |
| J | 0.05 | 0.15 | 0.002 | 0.006 |



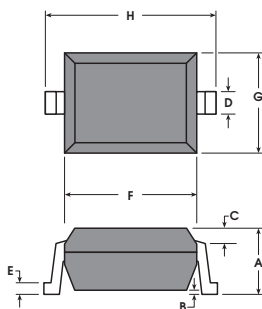
SOT143 PACKAGE OUTLINE

| | MILLIMETERS | | INCHES | |
|----------------|-------------|------|--------|--------|
| | MIN | MAX | MIN | MAX |
| A | 0.79 | 1.02 | 0.031 | 0.040 |
| A ₁ | 0.02 | 0.10 | 0.001 | 0.004 |
| B | 2.67 | 3.05 | 0.105 | 0.120 |
| C | 1.78 | 2.03 | 0.070 | 0.080 |
| D | 1.80 | 2.00 | 0.071 | 0.079 |
| E | 0.77 | 0.94 | 0.030 | 0.037 |
| F | 0.38 | 0.54 | 0.015 | 0.021 |
| G | 2.10 | 2.50 | 0.083 | 0.098 |
| H | 1.20 | 1.40 | 0.047 | 0.065 |
| I | 0.13 | 0.25 | 0.005 | 0.010 |
| J | 0.89 | 0.15 | 0.0035 | 0.0059 |
| ∅ | 0.0 | 8.0 | 0.0 | 0.8 |



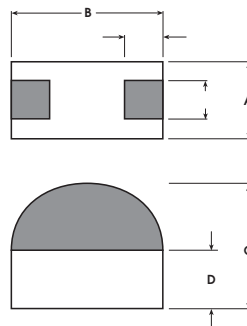
SOD323 PACKAGE OUTLINE

| | MILLIMETERS | | INCHES | |
|---|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | — | 1.10 | 0.034 | 0.043 |
| B | — | 0.10 | 0.003 | 0.004 |
| C | — | 0.20 | 0.006 | 0.010 |
| D | 0.25 | 0.40 | 0.010 | 0.016 |
| E | 0.08 | 0.15 | 0.003 | 0.006 |
| F | 1.60 | 1.90 | 0.063 | 0.075 |
| G | 1.15 | 1.45 | 0.045 | 0.057 |
| H | 2.30 | 2.70 | 0.094 | 0.106 |



0805 PACKAGE OUTLINE

| | MILLIMETERS | | INCHES | |
|---|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 1.14 | 1.40 | 0.045 | 0.055 |
| B | 1.91 | 2.16 | 0.075 | 0.085 |
| C | 0.63 | 0.84 | 0.025 | 0.033 |
| D | 0.38 | 0.63 | 0.015 | 0.025 |
| E | 0.30 | 0.40 | 0.012 | 0.016 |
| F | 0.76 | 1.06 | 0.030 | 0.040 |



E28X PACKAGE OUTLINE

| | MILLIMETERS | | INCHES | |
|---|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.63 | 0.76 | 0.025 | 0.030 |
| B | 0.20 | 0.38 | 0.008 | 0.015 |
| C | 0.10 | 0.20 | 0.004 | 0.008 |
| D | 0.50 | 0.76 | 0.020 | 0.030 |
| E | 0.25 | 0.50 | 0.010 | 0.020 |
| F | 4.11 | 4.52 | 0.162 | 0.178 |
| G | 2.16 | 2.41 | 0.085 | 0.095 |
| H | 1.02 | 1.27 | 0.040 | 0.050 |
| I | 0.38 | 0.63 | 0.015 | 0.025 |

