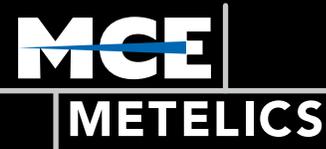


# SURFACE MOUNT SOT23 AND SOD323 SCHOTTKY MIXERS AND DETECTOR DIODES



## FEATURES

### Surface Mount Package

Tape and Reel Available

### Reliability

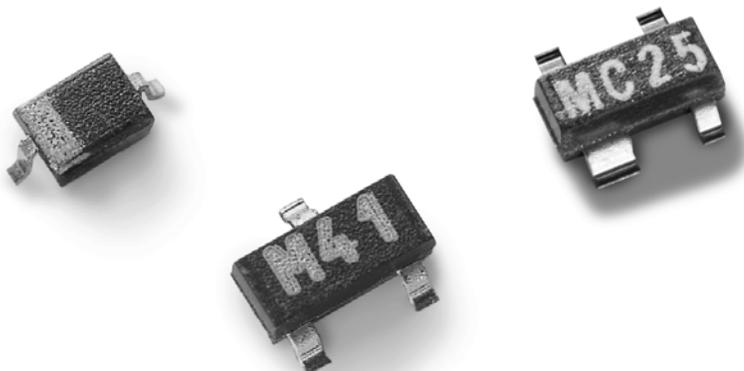
Gold Metallized Chip

Silicon Nitride/Oxide Passivation

### Low Series Resistance

### Low Capacitance

### Wide Dynamic Range



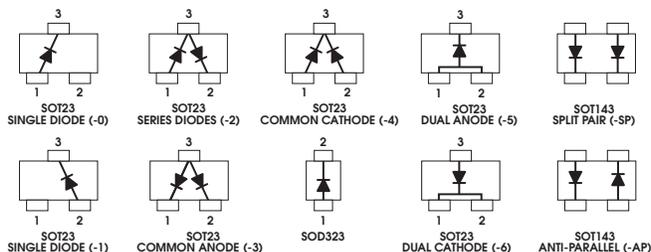
Specials are available upon request.

## 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

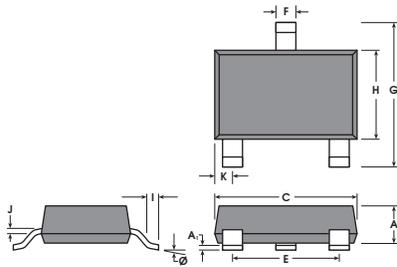
Operating/Storage Temperature Range ... -65°C to +150°C  
 Max Power Dissipation (per Package) ..... 250mW  
 Measured in an infinite heat sink at  $T_{CASE}=25^{\circ}C$ .  
 Derate linearly to zero at 150°C.  
 Peak inverse Voltage ( $V_{IV}$ ) ..... Same as  $V_{BR}$   
 Forward Current ( $I_F$ )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

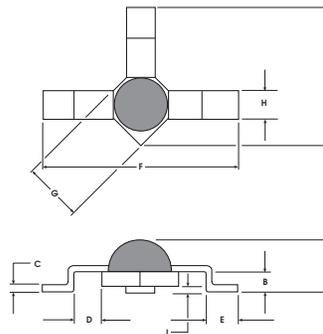
### SOT23 PACKAGE OUTLINE

	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.79	1.02	0.031	0.040
A <sub>1</sub>	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



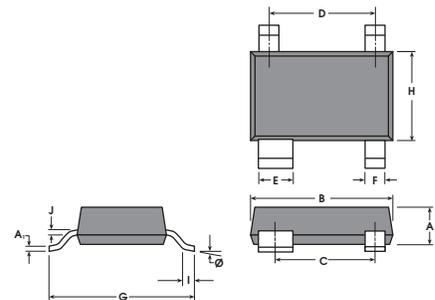
### E35SM PACKAGE OUTLINE

	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



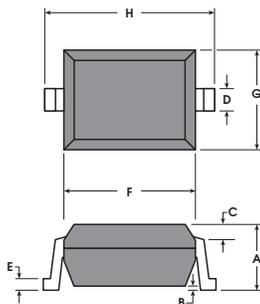
### SOT143 PACKAGE OUTLINE

	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.79	1.02	0.031	0.040
A <sub>1</sub>	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



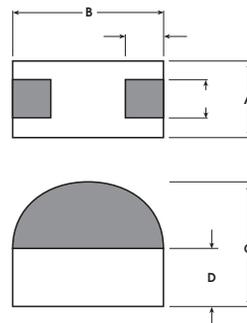
### SOD323 PACKAGE OUTLINE

	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

