

# SCHOTTKY DIODES FOR DETECTOR AND MIXER APPLICATION, SOT 143 PACKAGE



## FEATURES

### Surface Mount Package

Tape and Reel Available

### Reliability

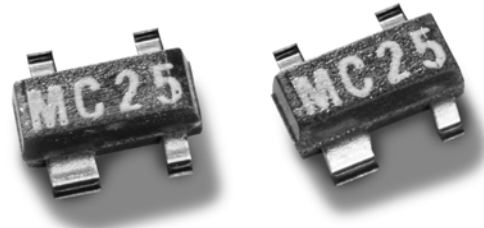
Gold Metallized Chip

Silicon Nitride/Oxide Passivation

### Low Series Resistance

### Low Capacitance

### Wide Dynamic Range

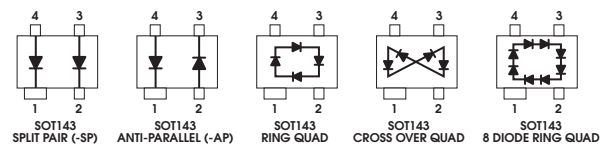


Specials are available upon request.

## DESCRIPTION/APPLICATIONS

These Schottky diodes are specifically designed for commercial applications requiring devices in the SOT143 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.

Package Terminal Identification Code



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

## SOT143 PACKAGE SCHOTTKY DIODES ELECTRICAL SPECIFICATIONS

Part Number	Package Outline	Barrier	VB @10UA Min.	CT @0V Typ.	VF @1mA Typ.	RD @10mA OHMS MAX
SMSP3012	SOT143-SP	LOW	2V	0.20-0.40 PF	220-300 mV	15.0
SMSP3004	SOT143-SP	LOW	2V	0.35-0.65 PF	220-300 mV	10.0
SMAP3012	SOT143-AP	LOW	2V	0.20-0.40 PF	220-300 mV	15.0
SMAP3004	SOT143-AP	LOW	2V	0.35-0.65 PF	220-300 mV	10.0

## SOT143 PACKAGE SCHOTTKY DIODES ELECTRICAL SPECIFICATIONS

Part Number	Package Mark	Barrier	VB @10UA Min.	CT @0V Typ.	VF @1mA Typ.	RD @10mA OHMS MAX
SMSRQ-1200	MR12	LOW	2V	0.20-0.40 PF	220-300 mV	15.0
SMSCQ-1200	MC12	LOW	2V	0.20-0.40 PF	220-300 mV	15.0
SMSRQ-1500	MR15	LOW	2V	0.35-0.65 PF	220-280 mV	8.0
SMSCQ-1500	MC15	LOW	2V	0.35-0.65 PF	220-280 mV	8.0
SMSRQ-2500	MR25	MED	2V	0.35-0.65 PF	320-400 mV	10.0
SMSCQ-2500	MC25	MED	2V	0.35-0.65 PF	320-400 mV	10.0
SMSRQ-4500	MR45	HIGH	3V	0.35-0.65 PF	520-620 mV	8.0
SMSCQ-4500	MC45	HIGH	3V	0.35-0.65 PF	520-620 mV	8.0
SMSRQ-5500	MR55	EXTRA HIGH	3V	0.25-0.55 PF	1000-1200mV	16.0
SMSCQ-5500	MC55	EXTRA HIGH	3V	0.25-0.55 PF	1000-1200mV	16.0

## MAXIMUM RATINGS

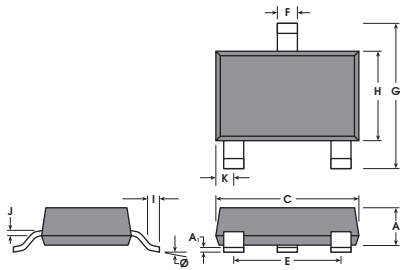
Operating/Storage Temperature Range ... -65°C to +150°C  
 Max Power Dissipation (per Package) ..... 250mW  
 Measured in an infinite heat sink at  $T_{CASE}=25^{\circ}C$ .  
 Derate linearly to zero at 150°C.  
 Peak inverse Voltage ( $V_{IV}$ ) ..... Same as  $V_{BR}$   
 Forward Current ( $I_F$ )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

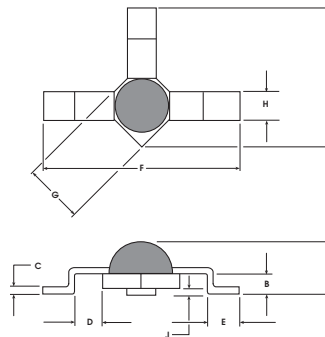
### SOT23 PACKAGE OUTLINE

	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



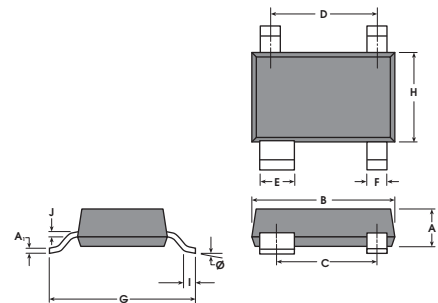
### E35SM PACKAGE OUTLINE

	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



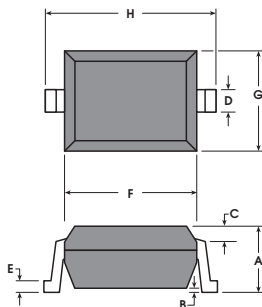
### SOT143 PACKAGE OUTLINE

	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



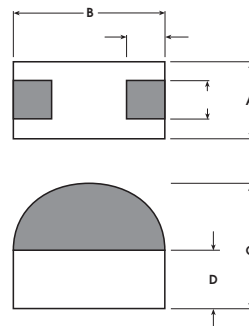
### SOD323 PACKAGE OUTLINE

	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

