TPM2860C series datasheet

Schottky Detector Diodes

Description

- DNMicron's TPM2860C DC biased detector diodes are ideal for RF applications.
- This family of detector diodes are available in various package configurations, we assure that when two or more diodes are mounted into a single surface mount package, they are taken from adjacent sites on the wafer, assuring the highest possible degree of match.

Features

- Multiple packaging types: SOD-523， SOT-23， SOT-143
- High Detection Sensitivity
- Tape and Reel Options Available
- Lead-free
- Matched Diodes for Consistent Performance
- Better Thermal Conductivity for Higher Power Dissipation

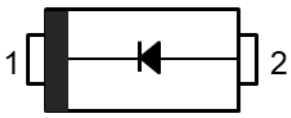
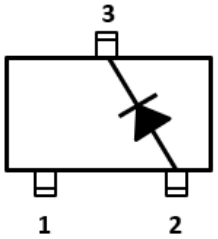
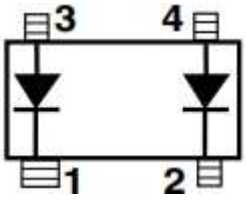
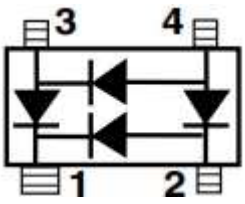
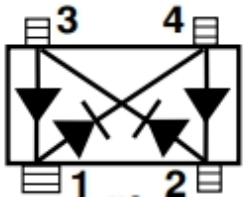


Observe precautions for handling electrostatic sensitive devices.

ESD Machine Model（Class A）

ESD Human Body Model（Class 0）

Package Lead Code Identification (top view)

TPM2860C -01 SOD-523	**TPM2860C -02** SOT-23	**TPM2860C -05** SOT-143
		
TPM2860C-08 SOT-143	**TPM2860C-09** SOT-143	
		

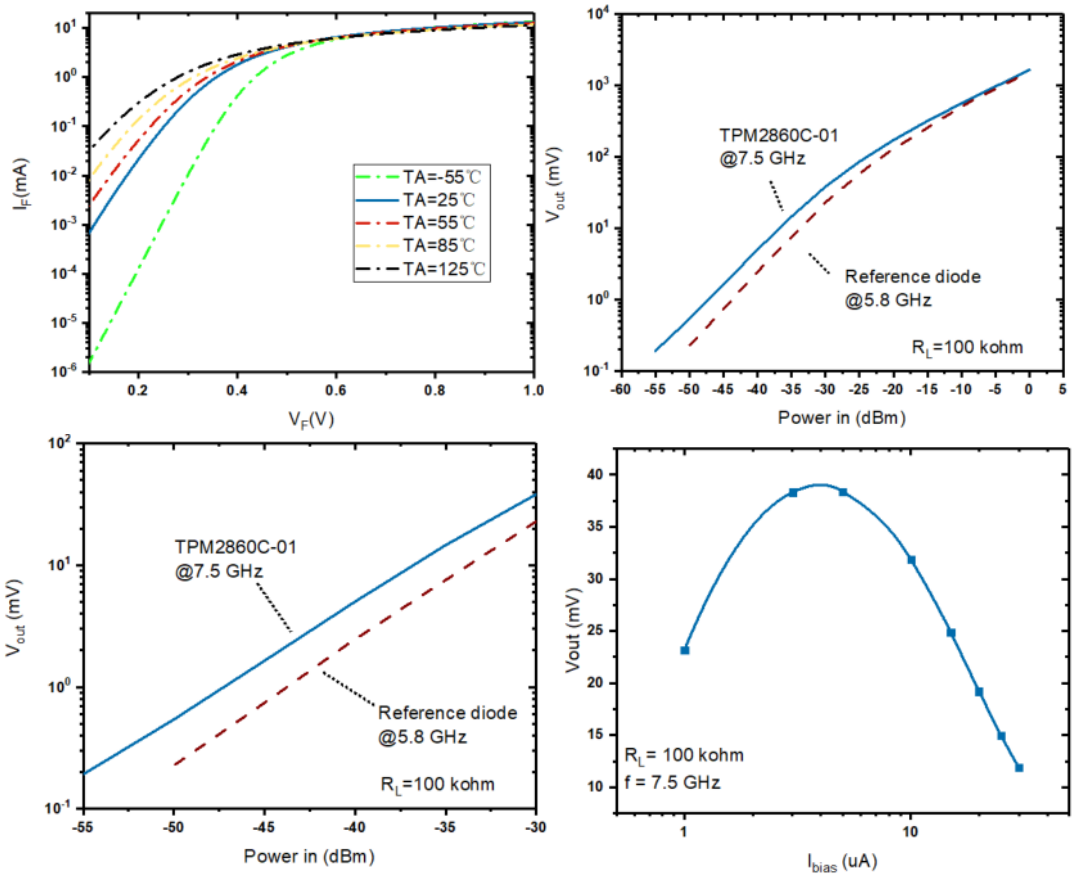
DC Electrical Specifications, T_c=+25℃

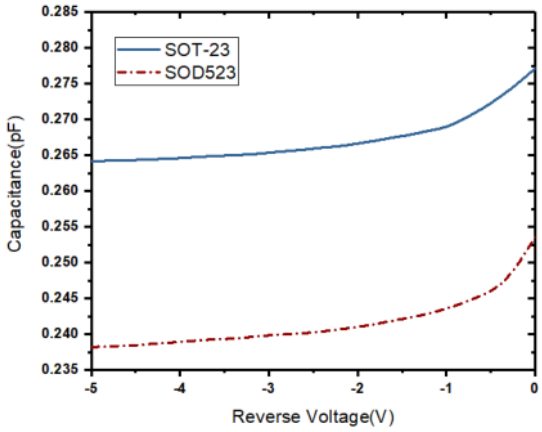
Parameter	Symbol	Test conditions	Typical performance
Breakdown voltage	V_{BD}	I_R = -10 μA	8 V max, 5 V min
Reverse current	I_R	V_R = -3 V	900 nA max, 60 nA min
Forward voltage1	V_F	I_F = 1 mA	350 mV
Forward voltage2	V_{10mA}	I_F = 10 mA	0.8 V
Typical capacitance	C_T	V_R = 0 V, f = 1 MHz	0.28 pF

RF Electrical Specifications, T_c =+25℃

Parameter	Symbol	Test conditions（f=7.5 GHz）	Typical performance
Voltage sensitivity	g	Power in= -30 dBm, R_L = 100 KΩ, I_b = 3 μA	32 mV/μW
Video resistance	R_V	I_b = 5 μA	6.5 kΩ

Typical performance



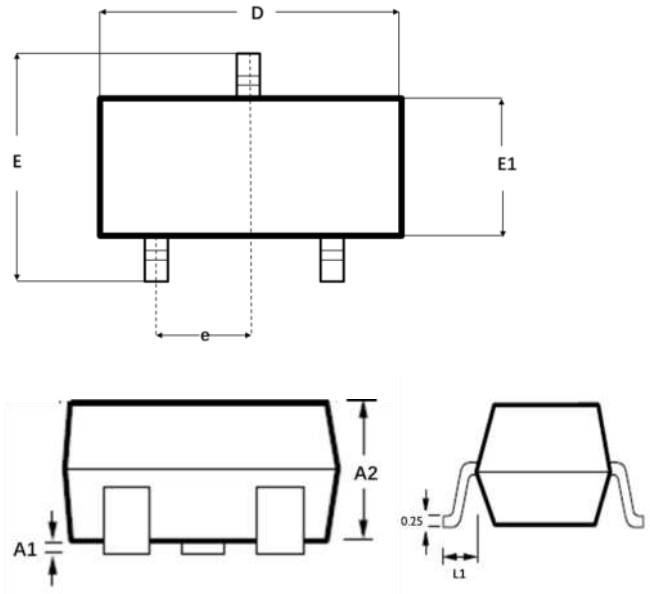


Typical Scattering Parameters (S11)（no DC bias，Power In=-30 dBm, T_c=+25℃)

Freq GHz	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4
MAG	0.992	0.998	0.998	0.997	0.996	0.998	0.997	0.998
PHASE	-14.5	-19.0	-21.8	-24.1	-25.6	-27.0	-29.8	-33.6
Freq GHz	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2
MAG	0.996	0.994	0.994	0.999	0.997	0.994	0.998	0.995
PHASE	-34.2	-37.4	-39.1	-40.8	-43.4	-45.9	-49.6	-49.2
Freq GHz	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3
MAG	0.999	0.998	0.996	0.993	0.999	0.998	0.992	0.999
PHASE	-54.4	-57.4	-58.0	-60.4	-64.6	-66.4	-70.1	-71.7
Freq GHz	3.1	3.2	3.3	3.4	3.5	3.6	3.7	
MAG	0.996	0.996	0.999	0.998	0.998	0.999	0.993	
PHASE	-74.0	-79.6	-80.9	-83.1	-86.6	-90.9	-93.5	

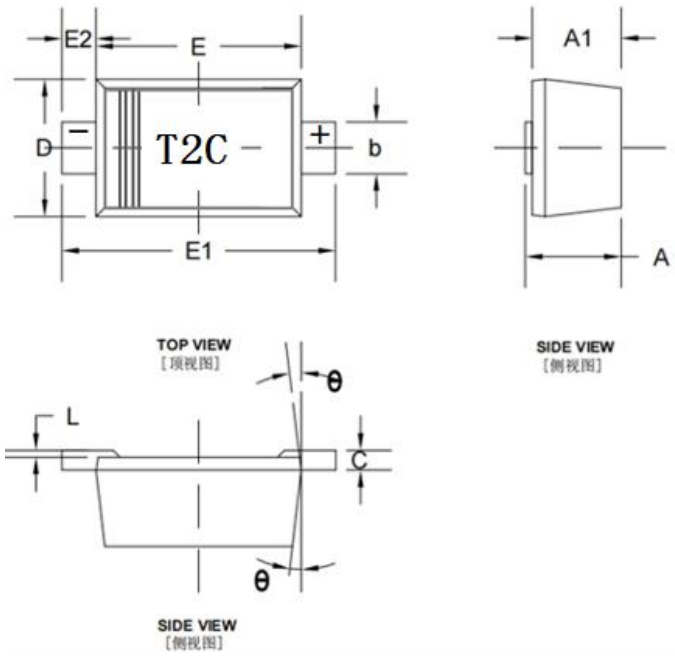
Package dimensions

SOT-23



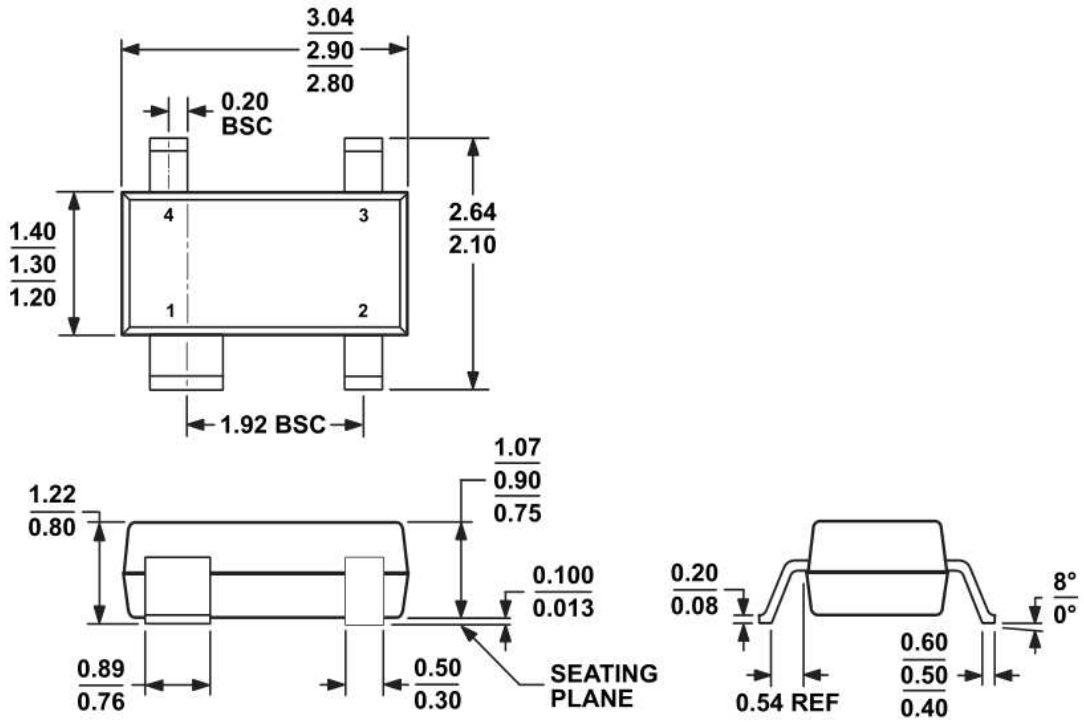
Symbol	dimensions （mm）	
	Min	Max
A1	0.04	0.10
A2	1.00	1.20
D	2.82	3.02
E	2.60	3.00
E1	1.50	1.70
e	0.95BSC	
L1	0.60REF	

SOD-523



Symbol	dimensions （mm）		
	Min	Typ	Max
A	0.460	0.560	0.660
A1	0.450	0.550	0.650
b	0.250	0.300	0.350
c	0.080	0.115	0.150
D	0.750	0.800	0.850
E	1.100	1.200	1.300
E1	1.500	1.600	1.700
E2	0.200REF		
L	0.010	0.040	0.070

SOT-143


3.04
2.90
2.80
0.20
BSC
1.40
1.30
1.20
4
3
1
2
2.64
2.10
1.92 BSC
1.07
0.90
0.75
1.22
0.80
0.100
0.013
0.89
0.76
0.50
0.30
SEATING
PLANE
0.20
0.08
8°
0°
0.60
0.50
0.40
0.54 REF