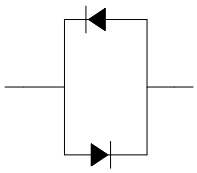
Spice Model for Metelics Zero Bias Schottky Diodes

The standard diode model found in Spice (Ver 2) does not correctly model the characteristics of Metelics' Zero Bias Schottky diodes. To correct this problem, use the macromodel shown below. Package parasitics are not include in the macromodel. See the outline datasheets for the package parasitics. Spice parameters not included are KF, AF and FC. This model does not contain the velocity saturation effect that occurs at high forward bias currents.



Marcomodel for MSS20,046

```
.SUBCKT ZB_SCH 1 2        1 is Anode  2 is Cathode
D1 2 1 DR
D3 1 2 DF
CJ 1 2 0.1PF
.MODEL DR D (N=0.09 RS=950 IS=5E-4 BV=15
IBV-1.0E-7)
.MODEL DF D (IS=19E-6 N=1 RS=94 BV=15
IBV=1.0E-7)
.ENDS
```

Example circuit using marcomodel

```
.DC V1 0.0 .3 .05
.PRINT DC V(2)
V1 1 0 0
R1 1 2 1000
X1 2 0 ZB_SCH
.SUBCKT ZB_SCH 1 2
D1 2 1 DR
D3 1 2 DF
CJ 1 2 0.1PF
.MODEL DR D (N=0.09 RS=950 IS=5E-4 BV=15
IBV-1.0E-7)
.MODEL DF D (IS=19E-6 N=1 RS=94 BV=15
IBV=1.0E-7)
.ENDS
.END
```

Values for CJO	
Part Number	CJO
MSS-20,046	0.10PF
MSS-20,047	0.10PF
MSS-20,050	0.15PF
MSS-20,051	0.15PF
MSS-20,140	0.08PF
MSS-20,141	0.08PF
MSS-20,142	0.10PF
MSS-20,143	0.10PF
MSS-20,145	0.12PF
MSS-20,146	0.12PF