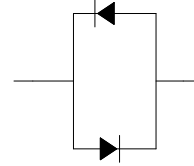


Spice Model for Metelics Zero Bias Schottky Diodes

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 |

Metelics provides Spice models that may be used and distributed freely, provided they are not changed in any way, resold or included in any other package for resale. These models are furnished on an "as is" basis without warranty of any kind. Metelics reserves the right to make changes to any model without notice. Although the use of models can be a useful tool in evaluating devices for applications, they do not exactly model all device characteristics under all conditions.