

***** Silicon Controlled Rectifier Model *****

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* Date: Tuesday, June 02, 2020

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* INPUT VALUES:
* Page 1
* General
* Name of Model Builder:
* Device Type No.
* Electrical Characteristics
* Holding Current = 1.040e+002 mA
* Gate Trigger Current = 5.250e+001 mA
* Gate Trigger Voltage = 8.800e-001 V
* Peak Forward Blocking Current = 6.400e+000 uA
* Peak Forward Blocking Voltage = 1.600e+003 V
* 1.05 Peak Reverse Blocking Voltage = 1.680e+003 V
* Critical Rate of Rise of Off-State Voltage = 5.000e+002 V/us
* Maximum Forward Voltage Chart
* Instantaneous Forward Current = 1.000e-001 A
* at Minimum Value of Instantaneous Voltage = 8.600e-001 V
* Instantaneous Forward Current = 1.000e+001 A
* at Intermid. Value of Instantaneous Voltage = 9.360e-001 V
* Instantaneous Forward Current = 2.000e+002 A
* at Max. Value of Instantaneous Voltage = 1.606e+000 V

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* Electrical Characteristics
* Turn-On Time = 3.000e+000 us
* Turn-Off Time = 1.500e+001 us
* Maximum Ratings Chart
* Forward Current = 7.500e+001 A
* Reverse Current = 6.400e-006 A
* Reverse Voltage = 1.600e+003 V
* Identifier = 0
* Parameter related to "off-state" (forw. current) = 6.400e-006 A
* Parameter related to "off-state" (peak.rev.bloc.volt.) = 1.600e+003 V

* SCR SUBCIRCUIT
.SUBCKT VS-70TPS16 10 20 30
.MODEL DMOD D (N=0.001)
.MODEL DON1 D(N = 6.472e-001, IS = 2.336e-024, RS = 3.103e-003,)
.MODEL DGAT D (IS=1E-12)
.MODEL DBREAK D(IS = 4.851e-008, BV = 2.016e+003, XTI = 3.000e+000)
V5 10 14 DC 0
DON 14 22 DON1
E1 22 20 POLY(2)10 20 3 20 0 0 0 0 1
*
VGD 7 0 DC 2.629e-001

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DGATE 30 7 DGAT
*
CRISE 14 20 2.080e-010
DBREAK1 20 27 DBREAK
DBREAK2 14 27 DBREAK
VREV 65 14 DC 0
GOFF 20 65 66 67 1
RLEAK 10 20 2.500e+008
*
D1 3 1 DMOD
D2 20 3 DMOD
FCTRL 3 20 POLY(3) VGD V5 VREV -5.250e-002, 1,5.048e-001, 1
V1 1 20 DC 0.999
CON 3 20 1.575e-007, IC=1.5
*
D3 67 56 DMOD
D4 56 70 DMOD
D5 20 56 DMOD
E2 66 20 10 20 -1
COFF 56 20 -1.558e+000
ROFF 66 67 1.000e+007
R10 66 70 1
.ENDS
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