

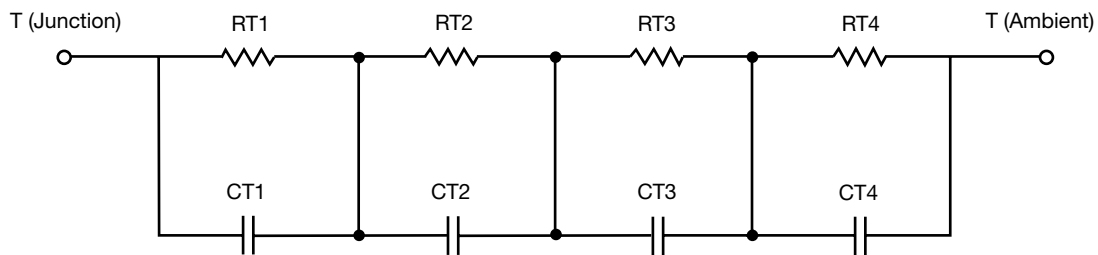
R-C Thermal Model Parameters

DESCRIPTION

The parametric values in the R-C thermal model have been derived using curve-fitting techniques. R-C values for the electrical circuit in the Foster/tank and Cauer/filter configurations are included. When implemented in P-SPICE, these values have matching characteristic curves to the single-pulse transient thermal impedance curves for the MOSFET.

These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in application note AN609, "Thermal Simulation of Power MOSFETs on the P-SPICE Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	1.4187	115.8842m	N/A
RT2	1.4381	147.9683m	N/A
RT3	9.3147	86.1671m	N/A
RT4	27.8285	49.9804m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.2538	4.6587m	N/A
CT2	271.1877m	25.0527m	N/A
CT3	6.2164	14.7855m	N/A
CT4	3.7833	487.5957m	N/A

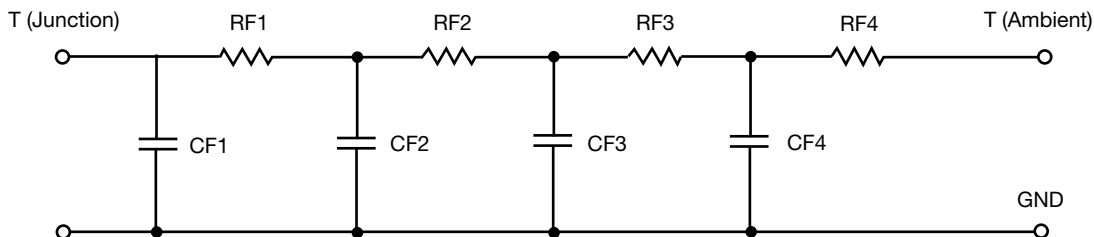
Note

N/A indicates not applicable

This document is intended as a SPICE modeling guideline and does not constitute a commercial product datasheet. Designers should refer to the appropriate datasheet of the same number for guaranteed specification limits.



R-C THERMAL MODEL FOR FILTER CONFIGURATION

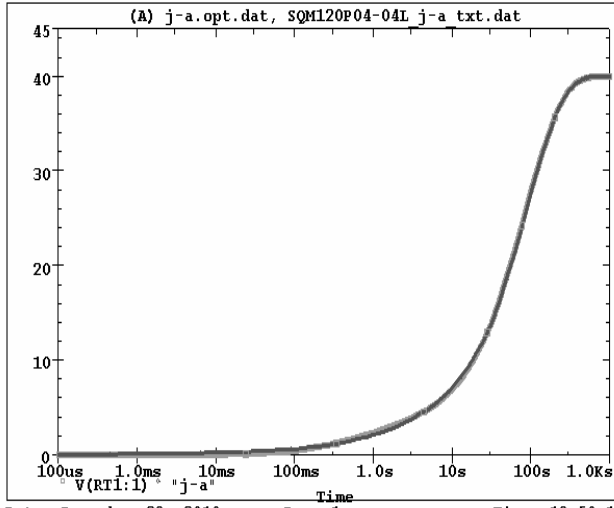


R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	1.9086	227.7477m	N/A
RF2	7.1183	131.9488m	N/A
RF3	22.9224	30.5365m	N/A
RF4	8.0507	9.7670m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	231.9881m	3.1258m	N/A
CF2	885.9552m	19.4116m	N/A
CF3	1.7868	432.3190m	N/A
CF4	1.4745	8.5067	N/A

Note
N/A indicates not applicable

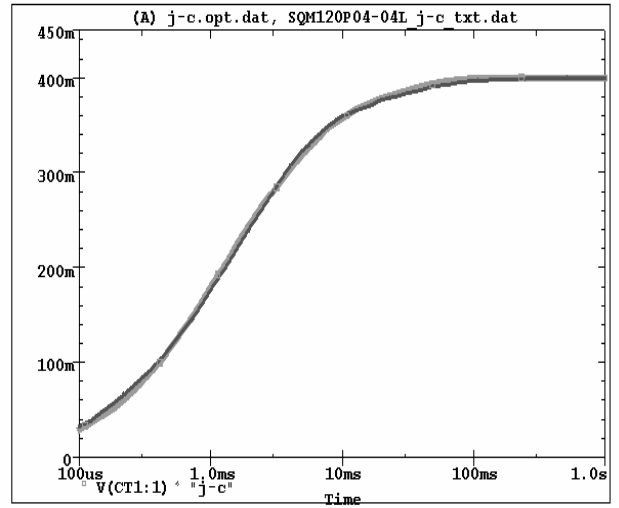


SQM120P04-04L Tank j-a Temperature: 27.0



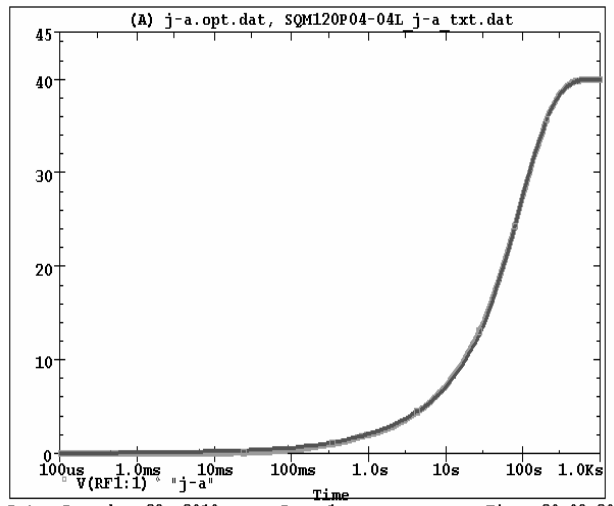
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SQM120P04-04L Tank j-c Temperature: 27.0



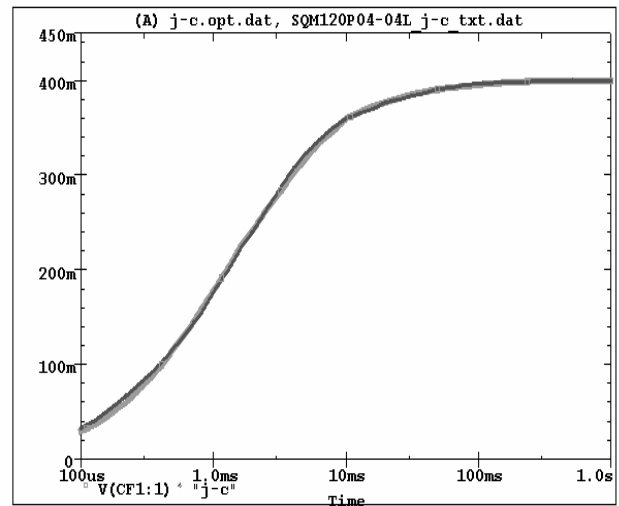
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SQM120P04-04L Filter j-a Temperature: 27.0



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SQM120P04-04L Filter j-c Temperature: 27.0



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