

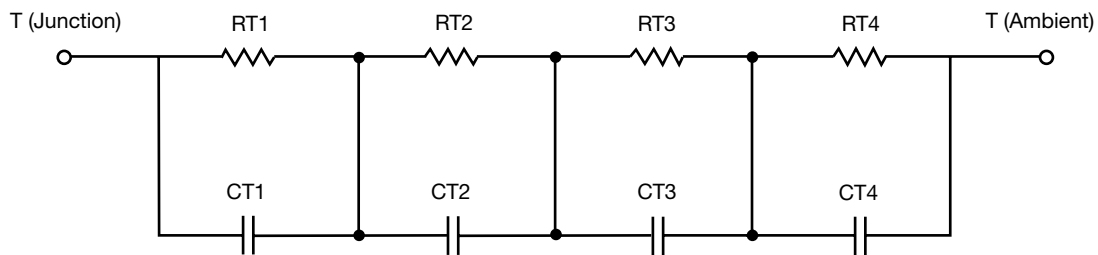
R-C Thermal Model Parameters

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	2.6146	81.8186m	N/A
RT2	1.0600	187.8798m	N/A
RT3	11.5278	62.5380m	N/A
RT4	24.7976	67.7636m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.0773	8.8641m	N/A
CT2	125.9597m	65.1433m	N/A
CT3	11.9783	31.0583m	N/A
CT4	3.2257	1.7773	N/A

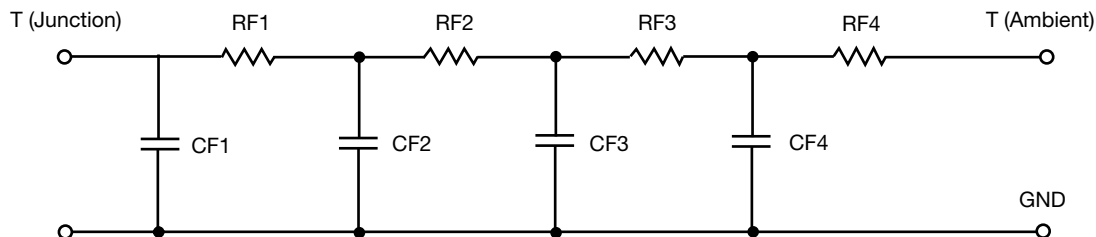
Note

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



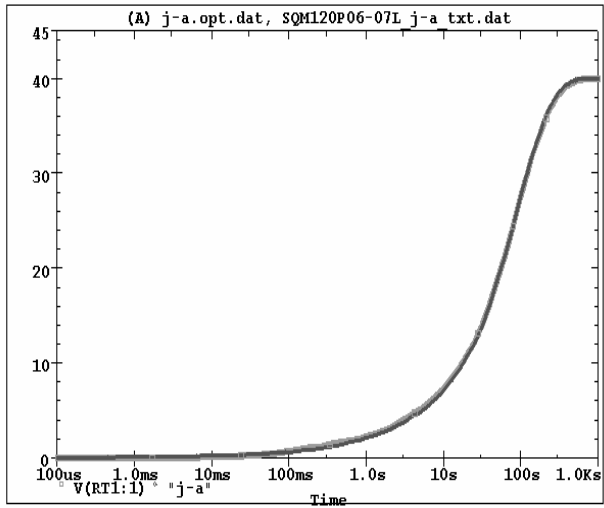
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	1.9086	183.9849m	N/A
RF2	7.1183	118.6223m	N/A
RF3	22.9224	66.9204m	N/A
RF4	8.0507	30.4724m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	231.9881m	7.0872m	N/A
CF2	885.9552m	76.1310m	N/A
CF3	1.7868	53.4890m	N/A
CF4	1.4745	6.5247	N/A

Note

N/A indicates not applicable

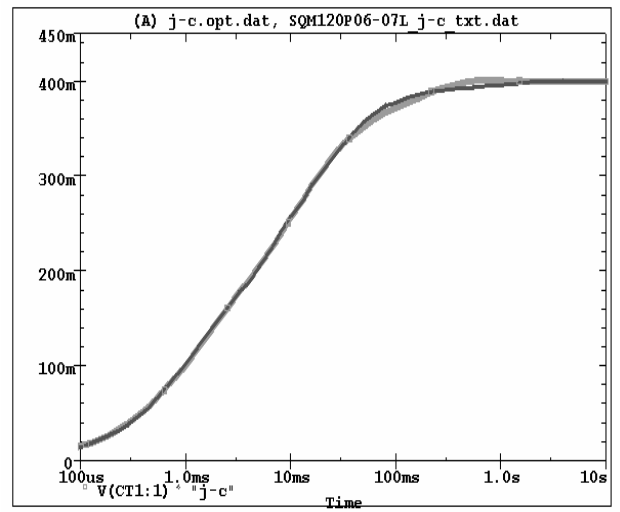


SQM120P06-07L Tank j-a Temperature: 27.0



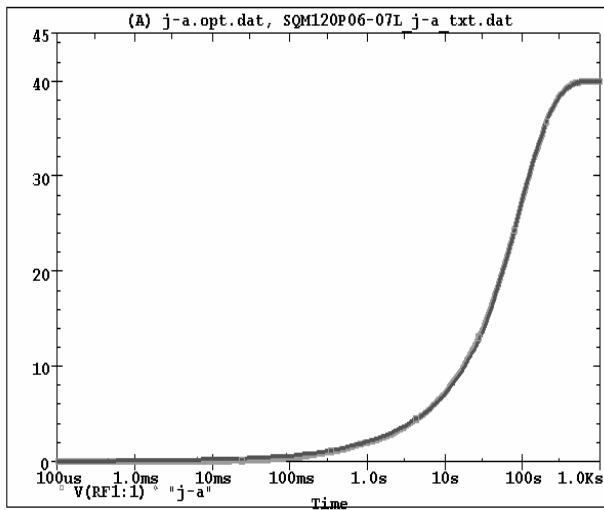
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SQM120P06-07L Tank j-c Temperature: 27.0



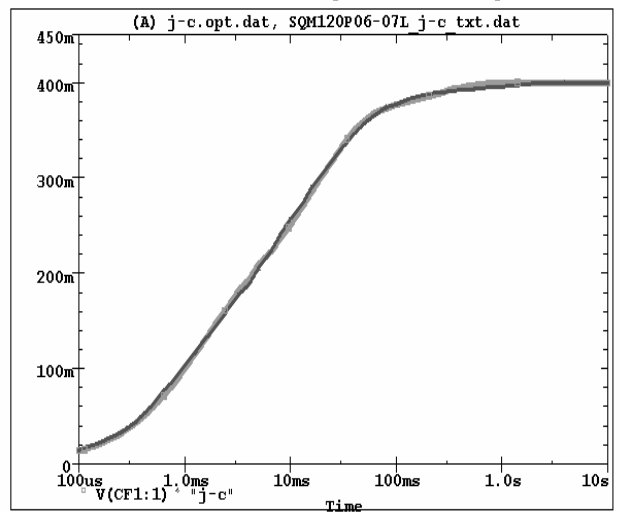
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SQM120P06-07L Filter j-a Temperature: 27.0



Date: December 29, 2010 Page 1 Time: 18:36:46

SQM120P06-07L Filter j-c Temperature: 27.0



Date: December 29, 2010 Page 1 Time: 19:22:08