



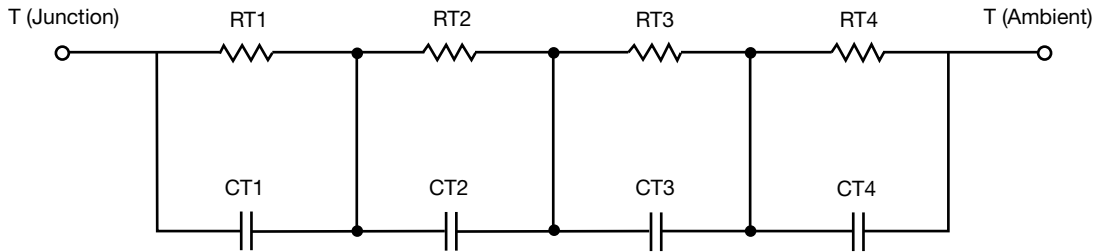
R-C Thermal Model Parameters

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	29.9649	104.6743m	N/A
RT2	14.4395	495.9141m	N/A
RT3	7.4571	422.9611m	N/A
RT4	2.1385	176.4505m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	3.7187	411.1468u	N/A
CT2	1.2578	163.4332m	N/A
CT3	103.0379m	16.6434m	N/A
CT4	22.4367m	148.9558m	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



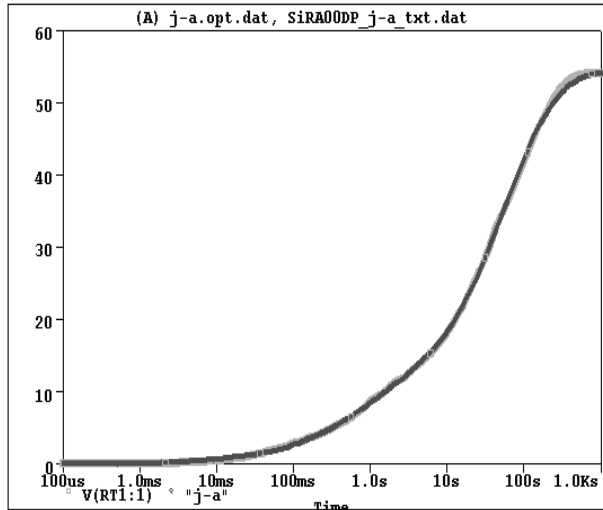
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	3.2909	160.9863m	N/A
RF2	7.9940	362.0966m	N/A
RF3	22.9369	332.6112m	N/A
RF4	19.7782	344.3059m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	18.2913m	888.2856u	N/A
CF2	83.1699m	16.7618m	N/A
CF3	870.4258m	7.5983m	N/A
CF4	4.5933	208.7762m	N/A

Note

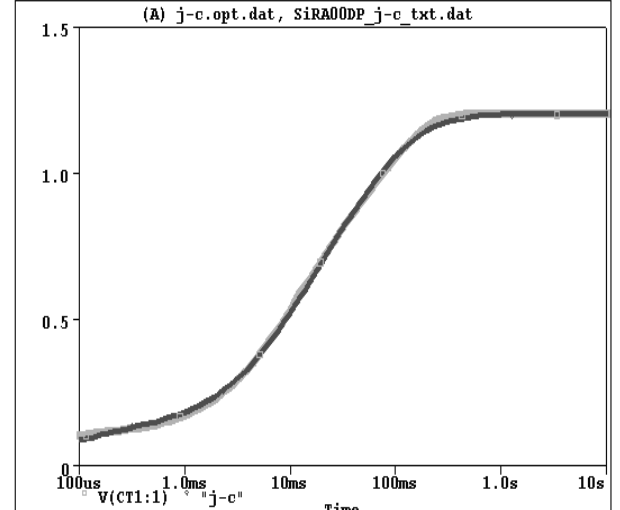
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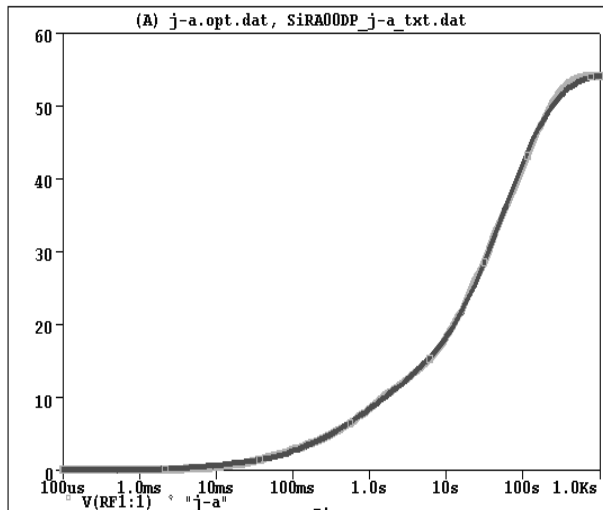
SiRA00DP Tank j-a Temperature: 27.0



SiRA00DP Tank j-c Temperature: 27.0



SiRA00DP Filter j-a Temperature: 27.0



SiRA00DP Filter j-c Temperature: 27.0

