



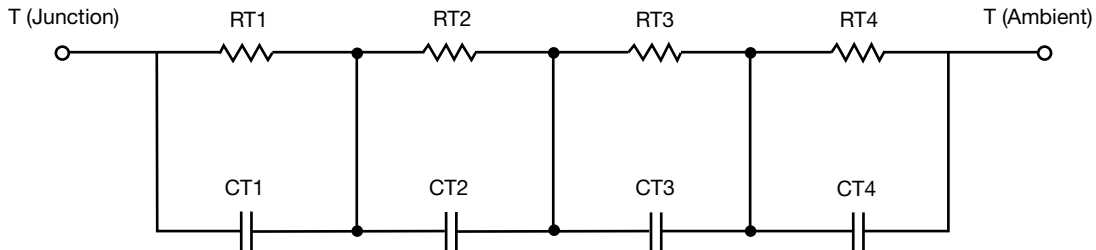
R-C Thermal Model Parameters

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	3.2505	1.2740	N/A
RT2	11.8266	363.4633m	N/A
RT3	10.9607	550.1414m	N/A
RT4	43.9622	312.3953m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	12.1734m	10.4208m	N/A
CT2	117.9147m	13.3159m	N/A
CT3	2.1937	955.8524u	N/A
CT4	1.8517	93.2086m	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



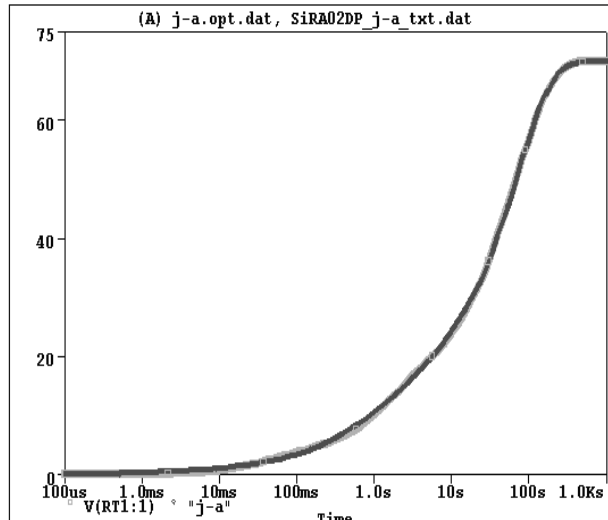
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	4.2112	202.9401m	N/A
RF2	11.4026	452.8231m	N/A
RF3	17.7451	1.4246	N/A
RF4	36.6411	419.6368m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	13.1877m	637.0935u	N/A
CF2	72.1831m	368.4292u	N/A
CF3	650.2011m	4.5941m	N/A
CF4	1.0610	22.6543m	N/A

Note

- n/a indicates not applicable

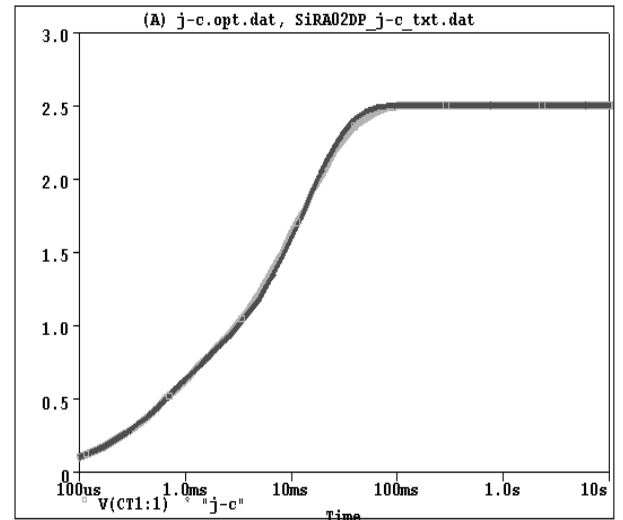


SiRA02DP Tank j-a Temperature: 27.0



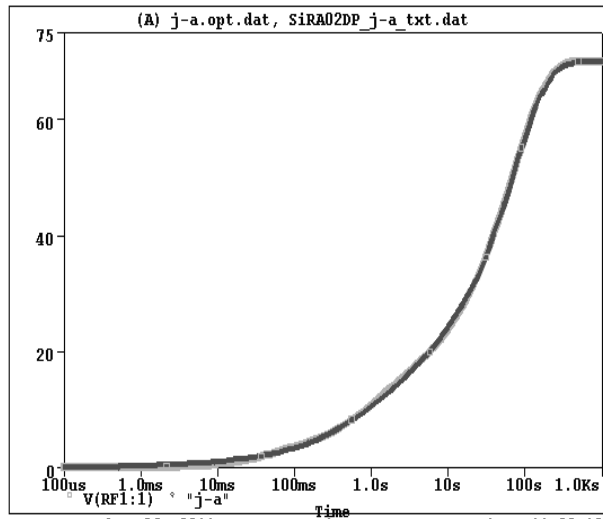
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SiRA02DP Tank j-c Temperature: 27.0



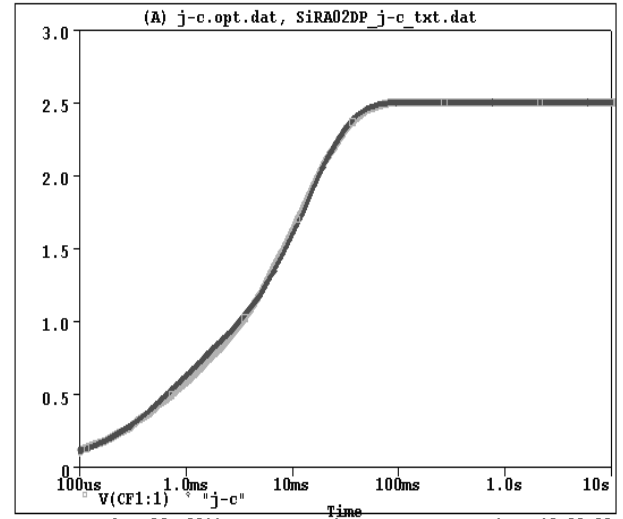
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SiRA02DP Filter j-a Temperature: 27.0



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SiRA02DP Filter j-c Temperature: 27.0



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