

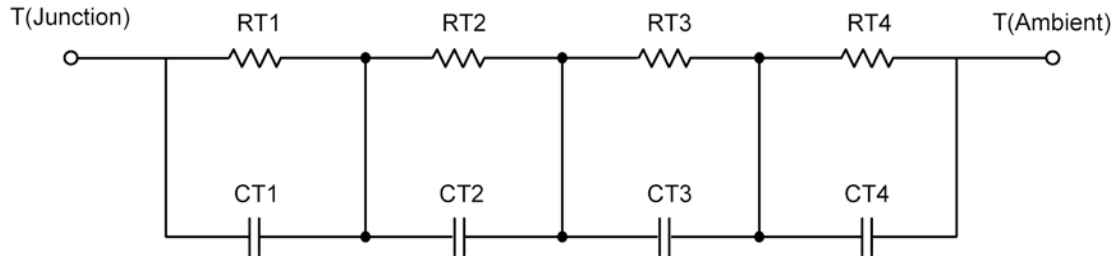
R-C Thermal Model Parameters

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.

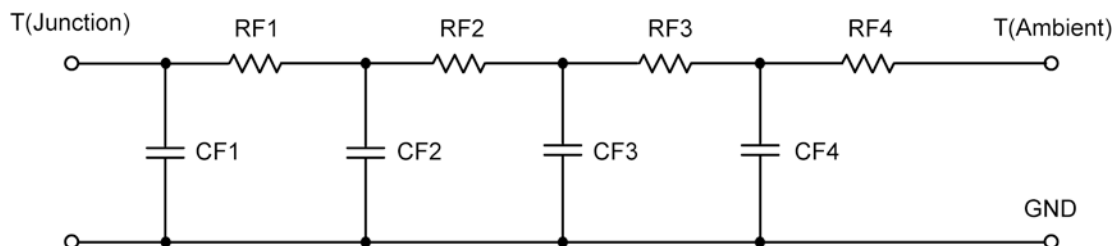
These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in Application Note AN609, "Thermal Simulation of Power MOSFETs on the P-Spice Platform."

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
Thermal Resistance (°C/W)			
Junction to	Ambient	Case	Foot
RT1	14.6276	230.7033 m	N/A
RT2	56.0891	704.7473 m	N/A
RT3	7.4662	320.6494 m	N/A
RT4	2.8171	1.1439	N/A
Thermal Capacitance (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	22.3352 m	1.1800 m	N/A
CT2	1.2380	22.6433 m	N/A
CT3	398.8241 m	2.6438 m	N/A
CT4	3.2923 m	9.6268 m	N/A

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

R-C THERMAL MODEL FOR FILTER CONFIGURATION**R-C VALUES FOR FILTER CONFIGURATION**

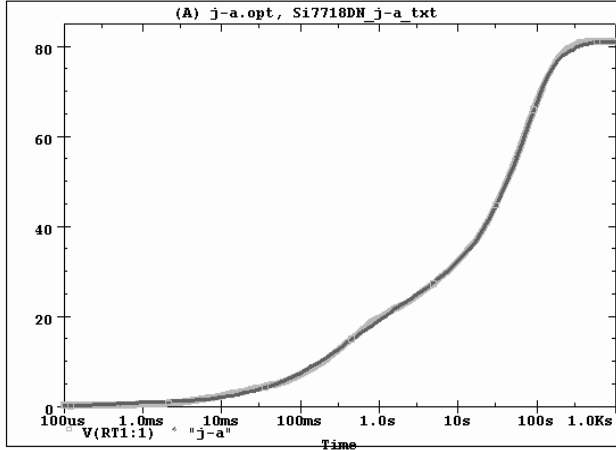
Thermal Resistance (°C/W)			
Junction to	Ambient	Case	Foot
RF1	4.7461	568.8667 m	N/A
RF2	13.1525	422.9339 m	N/A
RF3	12.9098	642.6392 m	N/A
RF4	50.1916	765.5602 m	N/A
Thermal Capacitance (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	3.9297 m	691.5706 u	N/A
CF2	18.2914 m	4.6347 m	N/A
CF3	229.4383 m	115.8387 u	N/A
CF4	1.1713	7.6904 m	N/A

Note

NA indicates not applicable

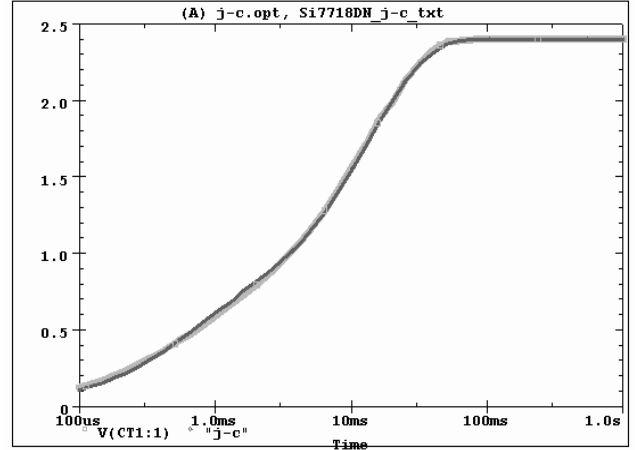


Si7718DN Tank j-a Temperature:27.0



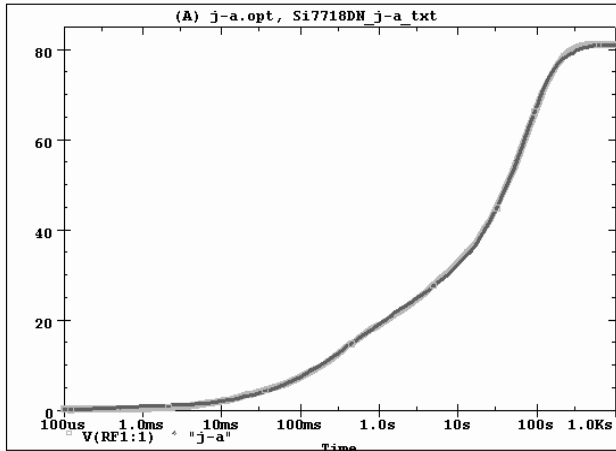
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Si7718DN Tank j-c Temperature:27.0



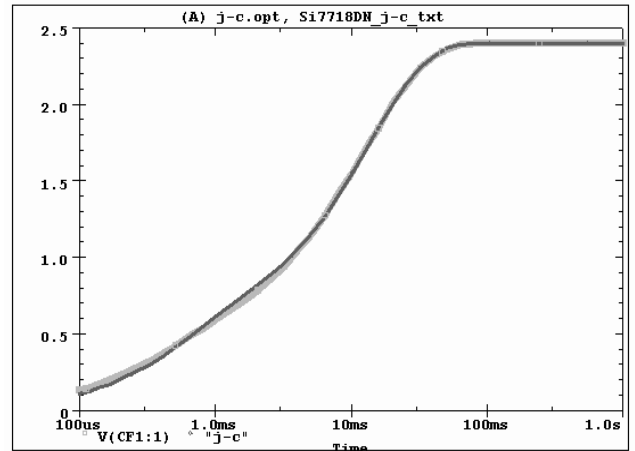
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Si7718DN Filter j-a Temperature:27.0



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Si7718DN Filter j-c Temperature:27.0



Date: May 07, 2008 Time: 19:45:56