

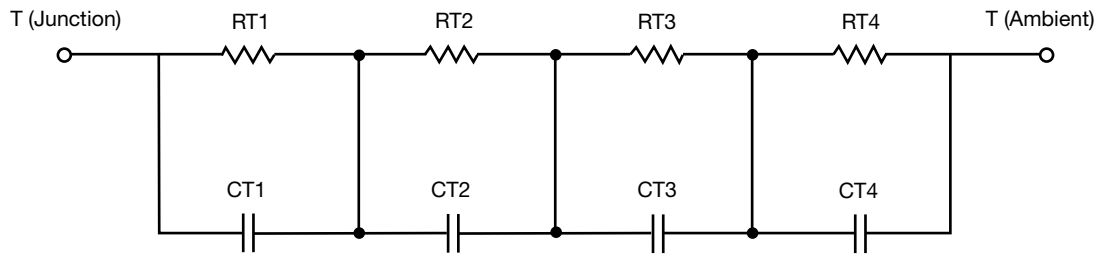
R-C Thermal Model Parameters

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 PSpice, 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 PSpice 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 PSpice Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	47.582	539.1113m	n/a
RT2	8.794	407.1429m	n/a
RT3	7.592	486.5955m	n/a
RT4	1.032	67.9420m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.4035	28.7485m	n/a
CT2	430.1383m	11.2748m	n/a
CT3	61.0557m	32.7442m	n/a
CT4	2.7544m	160.0082u	n/a

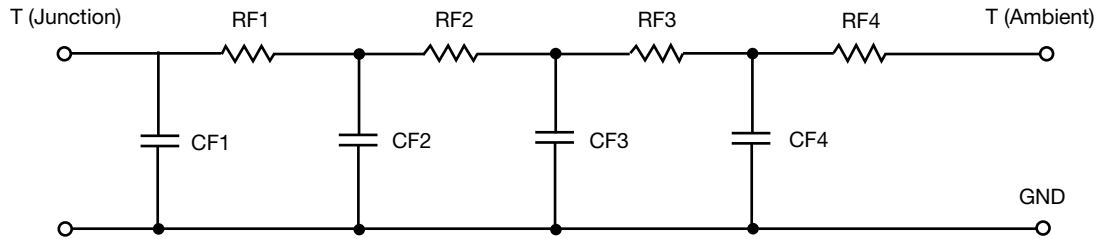
Note

- 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



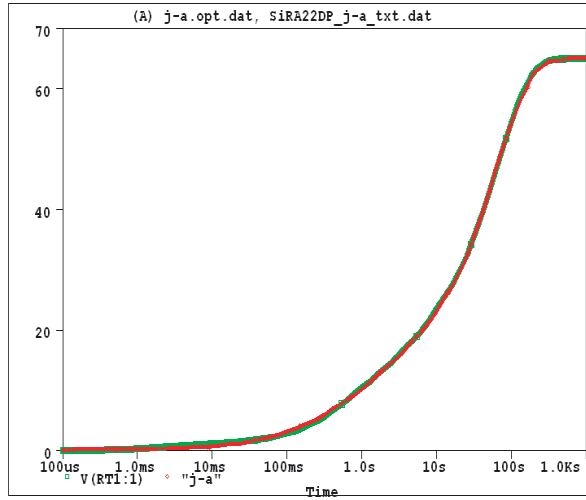
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	683.2000m	73.4344m	n/a
RF2	10.641	495.9081m	n/a
RF3	16.8282	575.7937m	n/a
RF4	36.8476	356.5338m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.3713m	318.4045u	n/a
CF2	39.1293m	6.0317m	n/a
CF3	447.9153m	1.0614m	n/a
CF4	1.3049	30.2842m	n/a

Note

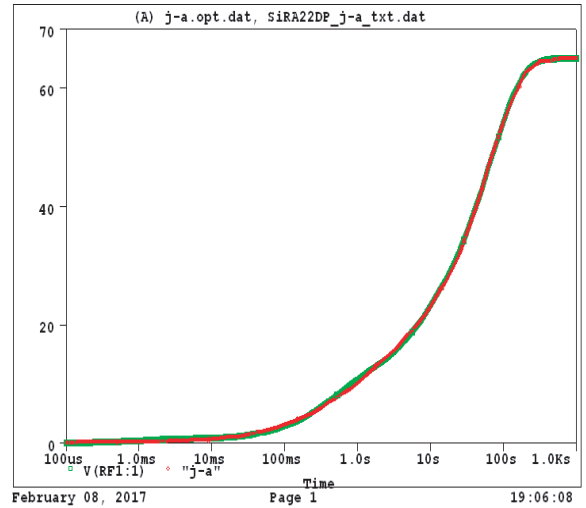
- n/a indicates not applicable



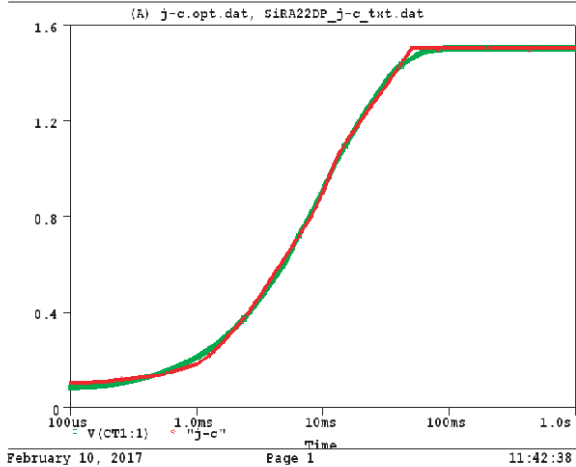
SiRA22DP Tank j-a Temperature:27.0



SiRA22DP Filter j-a Temperature:27.0



SiRA22DP Tank j-c Temperature:27.0



SiRA22DP Filter j-c Temperature:27.0

