

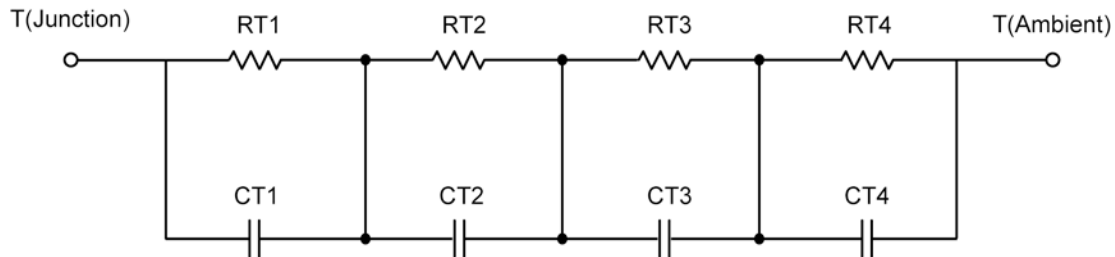
## R-C Thermal Model Parameters

### 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.

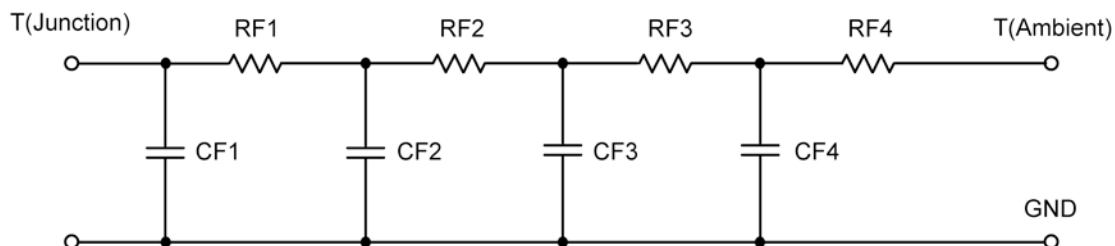
These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in Application Note AN609, "Thermal Simulation of Power MOSFETs on the P-Spice Platform."

### R-C THERMAL MODEL FOR TANK CONFIGURATION



<b>R-C VALUES FOR TANK CONFIGURATION</b>			
<b>Thermal Resistance (°C/W)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
RT1	10.9948	742.9937 m	N/A
RT2	4.5439	2.0682	N/A
RT3	2.6966	185.8461 m	N/A
RT4	51.7647	2.9602 m	N/A
<b>Thermal Capacitance (Joules/°C)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
CT1	133.7481 m	873.2923 u	N/A
CT2	32.6783 m	4.0096 m	N/A
CT3	1.8346 m	132.0877 m	N/A
CT4	1.2563	273.8045 u	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 ( $^{\circ}\text{C}/\text{W}$ )			
Junction to	Ambient	Case	Foot
RF1	3.3975	1.0437	N/A
RF2	11.3094	1.1094	N/A
RF3	15.9477	641.2221 m	N/A
RF4	39.3454	202.8779 m	N/A
Thermal Capacitance (Joules/ $^{\circ}\text{C}$ )			
Junction to	Ambient	Case	Foot
CF1	1.9234 m	753.9727 u	N/A
CF2	39.2111 m	3.5615 m	N/A
CF3	495.8147 m	65.5742 u	N/A
CF4	1.1525	7.7286 m	N/A

**Note**

NA indicates not applicable

