

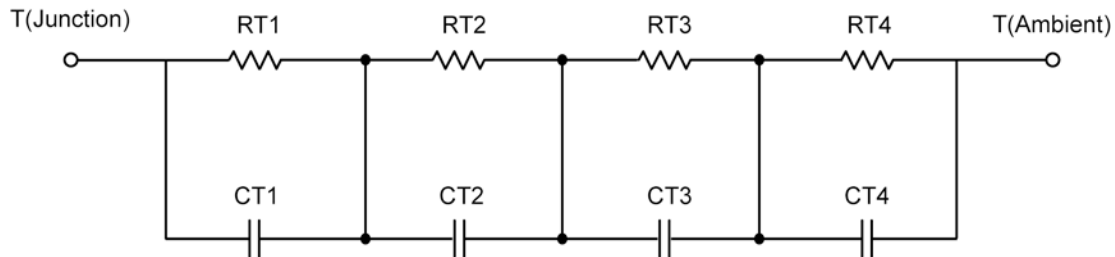
## R-C Thermal Model Parameters

### 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.

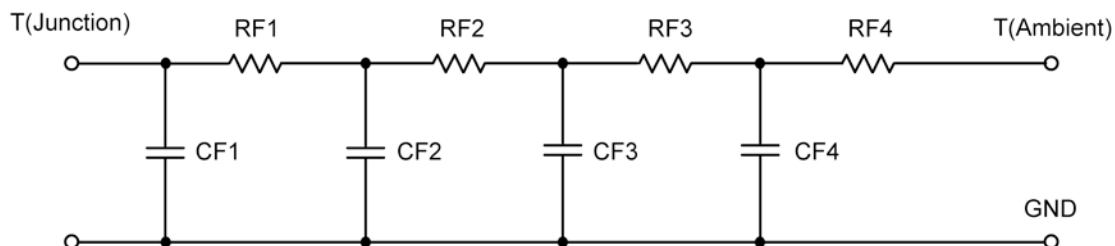
These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in Application Note AN609, "Thermal Simulation of Power MOSFETs on the P-Spice Platform."

### 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	12.5321	467.4430 m	N/A
RT2	16.7800	769.2686 m	N/A
RT3	4.3460	669.5884 m	N/A
RT4	36.3419	2.2937	N/A
<b>Thermal Capacitance (Joules/°C)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
CT1	46.1294 m	328.5523 u	N/A
CT2	756.7539 m	36.0733 m	N/A
CT3	824.3291 u	1.0470 m	N/A
CT4	2.9364	3.6981 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 ( $^{\circ}\text{C}/\text{W}$ )			
Junction to	Ambient	Case	Foot
RF1	4.4943	977.6100 m	N/A
RF2	12.8155	1.0603	N/A
RF3	20.4763	1.4724	N/A
RF4	32.2139	689.6900 m	N/A
Thermal Capacitance (Joules/ $^{\circ}\text{C}$ )			
Junction to	Ambient	Case	Foot
CF1	863.7499 u	277.4755 u	N/A
CF2	38.3270 m	1.3231 m	N/A
CF3	431.9710 m	2.8236 m	N/A
CF4	2.5476	12.3210 m	N/A

**Note**

NA indicates not applicable

