

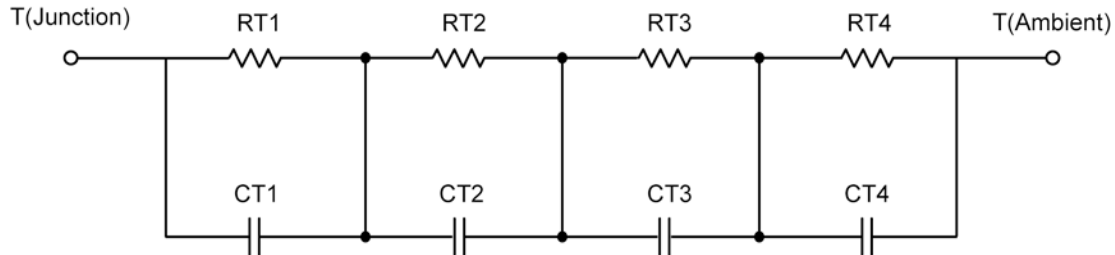
## R-C Thermal Model Parameters

### 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	3.3049	185.9177 m	N/A
RT2	10.8326	240.1079 m	N/A
RT3	16.8549	104.2770 m	N/A
RT4	34.0076	969.6974 m	N/A
<b>Thermal Capacitance (Joules/°C)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
CT1	21.0600 m	120.3723 m	N/A
CT2	130.1851 m	2.3912 m	N/A
CT3	1.6886	8.7427 m	N/A
CT4	2.4974	17.2415 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	4.5661	55.4760 m	N/A
RF2	13.2507	342.3390 m	N/A
RF3	28.2354	404.7680 m	N/A
RF4	18.9478	697.4170 m	N/A
Thermal Capacitance (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	14.1299 m	399.9290 u	N/A
CF2	109.8611 m	1.9614 m	N/A
CF3	1.0357	9.6899 m	N/A
CF4	1.2196	7.5876 m	N/A

**Note**

NA indicates not applicable

