

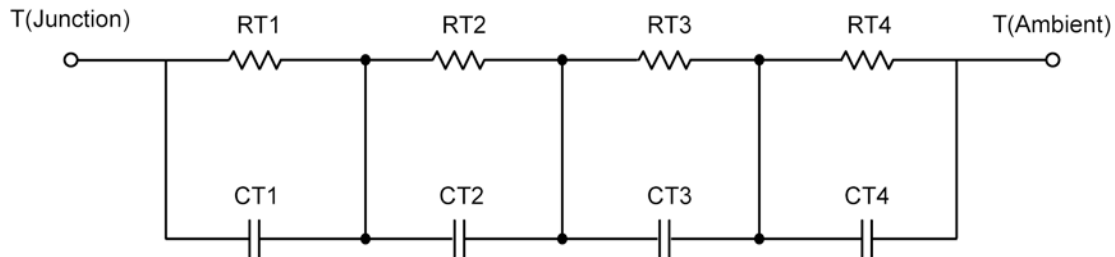
## R-C Thermal Model Parameters

### 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.

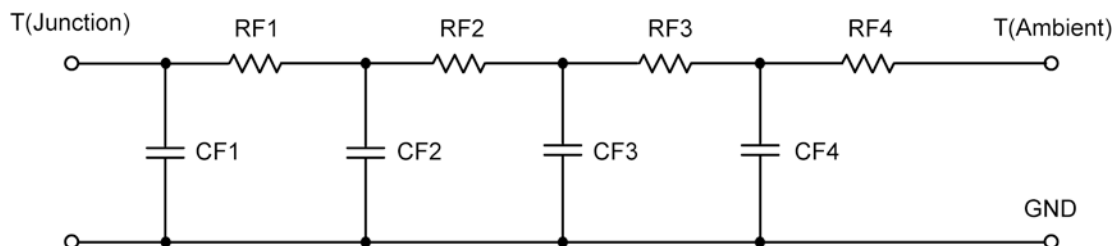
These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in Application Note AN609, "Thermal Simulation of Power MOSFETs on the P-Spice Platform."

### 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	6.7576	2.7069	N/A
RT2	21.1495	3.1902	N/A
RT3	24.0061	1.0821	N/A
RT4	38.0868	4.0208	N/A
<b>Thermal Capacitance (Joules/°C)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
CT1	145.1424 u	143.3466 u	N/A
CT2	4.8991 m	1.8014 m	N/A
CT3	66.6787 m	16.4210 m	N/A
CT4	2.0947	588.0983 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 (°C/W)			
Junction to	Ambient	Case	Foot
RF1	7.4708	3.0560	N/A
RF2	23.6972	3.6118	N/A
RF3	22.7296	1.8070	N/A
RF4	36.1024	2.5252	N/A
Thermal Capacitance (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	166.6218 u	94.1619 u	N/A
CF2	4.5296 m	157.8502 u	N/A
CF3	70.2944 m	663.0335 u	N/A
CF4	2.1608	780.8632 u	N/A

**Note**

NA indicates not applicable

