



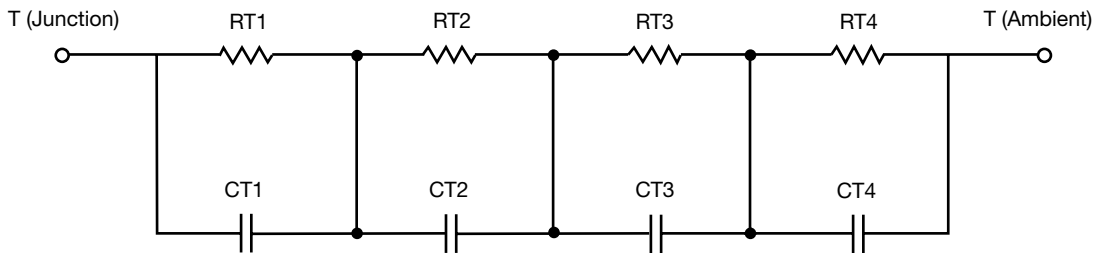
## R-C Thermal Model Parameters

### 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



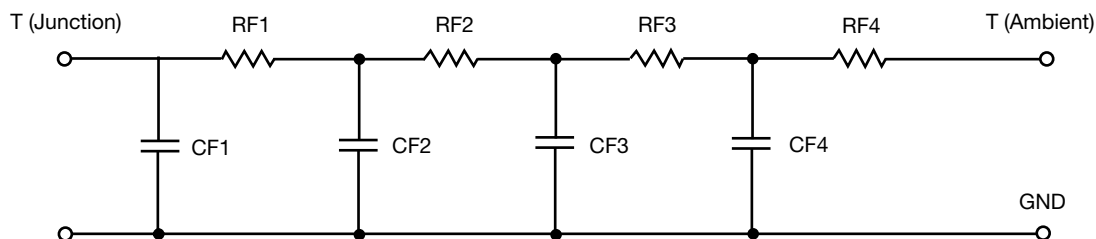
R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	N/A	380.3730 m	N/A
RT2	N/A	341.6787 m	N/A
RT3	N/A	193.8493 m	N/A
RT4	N/A	84.0990 m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	N/A	207.3338 m	N/A
CT2	N/A	40.3507 m	N/A
CT3	N/A	11.1563 m	N/A
CT4	N/A	1.8418 m	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**



<b>R-C VALUES FOR FILTER CONFIGURATION</b>			
<b>THERMAL RESISTANCE (°C/W)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
RF1	N/A	121.1273 m	N/A
RF2	N/A	235.7757 m	N/A
RF3	N/A	487.9464 m	N/A
RF4	N/A	155.1506 m	N/A
<b>THERMAL CAPACITANCE (Joules/°C)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
CF1	N/A	1.5330 m	N/A
CF2	N/A	5.8355 m	N/A
CF3	N/A	34.4447 m	N/A
CF4	N/A	756.2914 m	N/A

**Note**

- N/A indicates not applicable

