



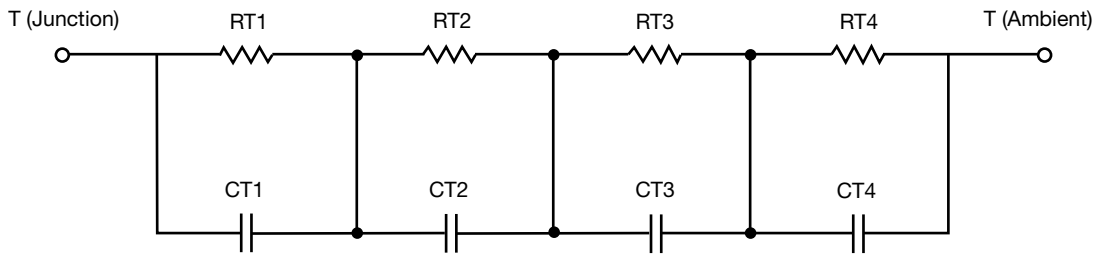
# R-C Thermal Model Parameters

## 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 PSpice, 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 PSpice 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 PSpice Platform".

## R-C THERMAL MODEL FOR TANK CONFIGURATION

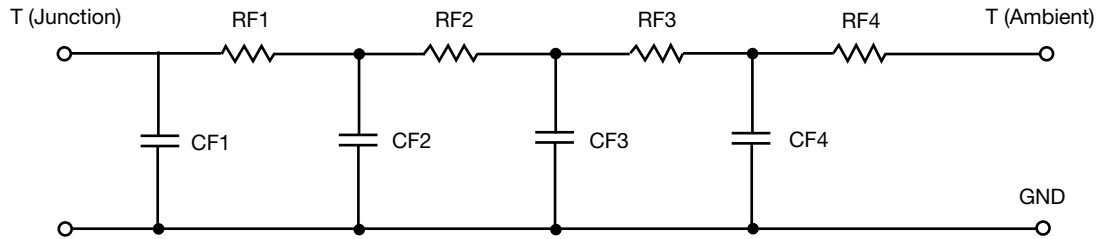


R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	n/a	65.1463m	n/a
RT2	n/a	40.1350m	n/a
RT3	n/a	101.2861m	n/a
RT4	n/a	93.8252m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	n/a	67.4294m	n/a
CT2	n/a	972.5886m	n/a
CT3	n/a	4.0239m	n/a
CT4	n/a	399.4363m	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	123.4088m	n/a
RF2	n/a	84.4132m	n/a
RF3	n/a	18.5195m	n/a
RF4	n/a	73.6585m	n/a
<b>THERMAL CAPACITANCE (Joules/°C)</b>			
<b>Junction to</b>	<b>Ambient</b>	<b>Case</b>	<b>Foot</b>
CF1	n/a	3.9059m	n/a
CF2	n/a	80.3887m	n/a
CF3	n/a	39.1860m	n/a
CF4	n/a	380.4652m	n/a

**Note**

- n/a indicates not applicable

