



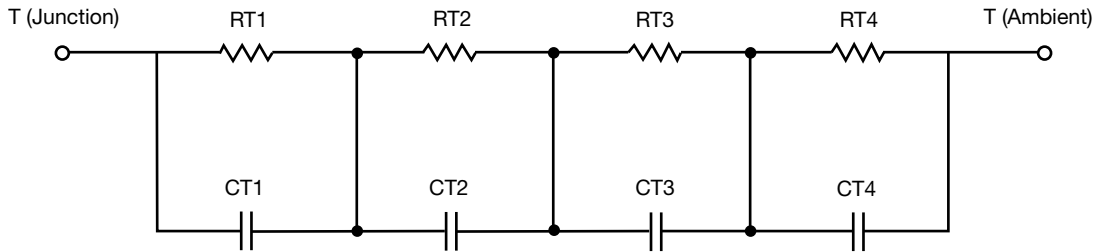
# R-C Thermal Model Parameters

## 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	8.6928	453.5377m	N/A
RT2	14.6503	795.3039m	N/A
RT3	15.3931	1.1556	N/A
RT4	41.9691	9.1729m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	8.0443m	866.8903u	N/A
CT2	67.5770m	8.1768m	N/A
CT3	2.8615	15.1058m	N/A
CT4	1.8331	154.8225	N/A

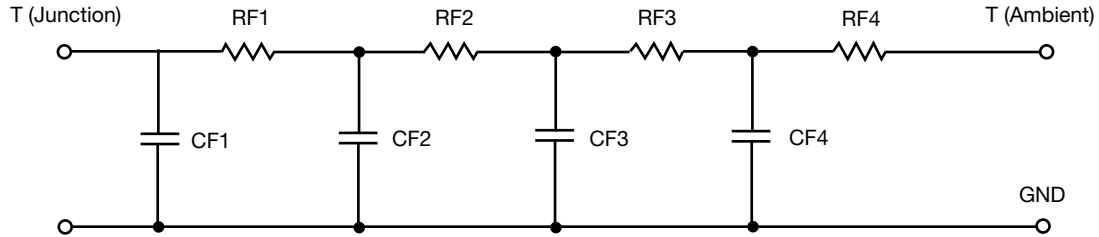
### Note

- 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



R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	5.9264	679.0503m	N/A
RF2	16.4821	789.7247m	N/A
RF3	24.8289	166.2966m	N/A
RF4	33.4295	759.0408m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	4.2295m	845.7008u	N/A
CF2	27.9617m	4.3901m	N/A
CF3	759.5657m	7.0805m	N/A
CF4	1.0222	144.3250u	N/A

Note

- n/a indicates not applicable

