



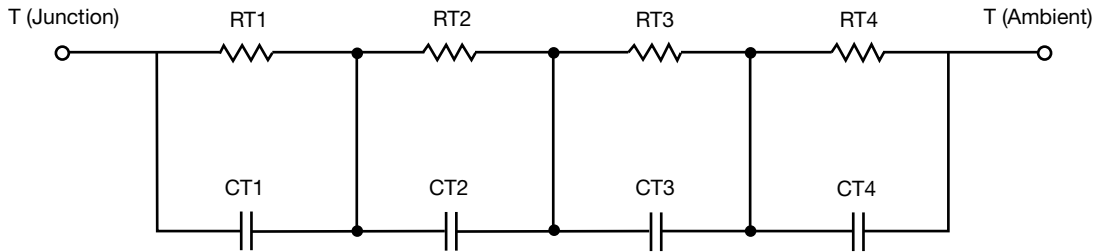
# R-C Thermal Model Parameters

## 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	14.0800	107.1399m	N/A
RT2	5.5682	532.9283m	N/A
RT3	5.4429	499.0014m	N/A
RT4	28.2994	59.5053m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.6241	991.3150u	N/A
CT2	353.1188m	20.7895m	N/A
CT3	34.5793m	175.4107m	N/A
CT4	3.8281	34.2251m	N/A

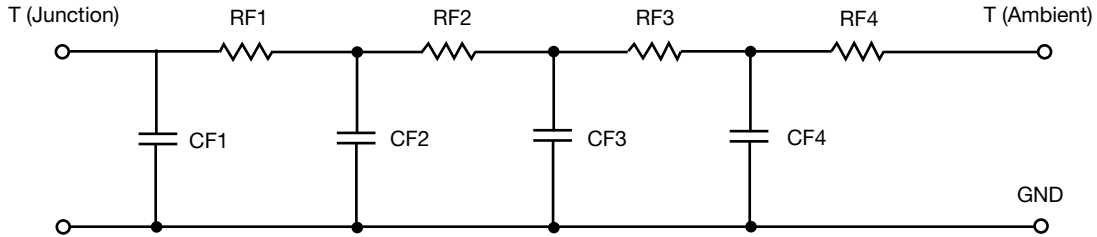
### Note

- 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	5.3348	153.0001m	N/A
RF2	7.7457	567.3616m	N/A
RF3	19.0014	384.5585m	N/A
RF4	21.2430	87.9313m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	24.4824m	1.1004m	N/A
CF2	178.8258m	15.5400m	N/A
CF3	831.1420m	100.8022m	N/A
CF4	3.3003	1.1367	N/A

Note

- n/a indicates not applicable

