

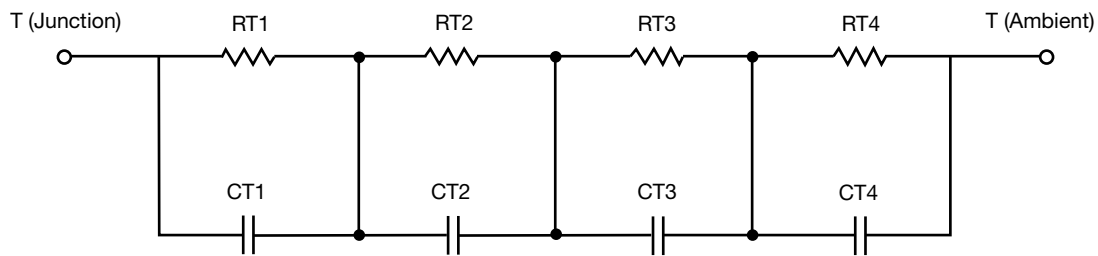
## R-C Thermal Model Parameters

### 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	5.2392	2.4695	n/a
RT2	12.2769	1.5529	n/a
RT3	11.5984	994.3377m	n/a
RT4	55.8855	510.9250m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	931.1384u	591.0709u	n/a
CT2	266.9756m	6.2350m	n/a
CT3	19.4521m	63.9632m	n/a
CT4	1.3483	1.3941	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	3.9429	2.2903	n/a
RF2	10.9272	1.6006	n/a
RF3	17.6711	977.3862m	n/a
RF4	52.4588	631.7140m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	611.9812u	481.8238u	n/a
CF2	8.8253m	2.0362m	n/a
CF3	135.8399m	29.6475m	n/a
CF4	1.2717	559.2166m	n/a

Note

- n/a indicates not applicable

