

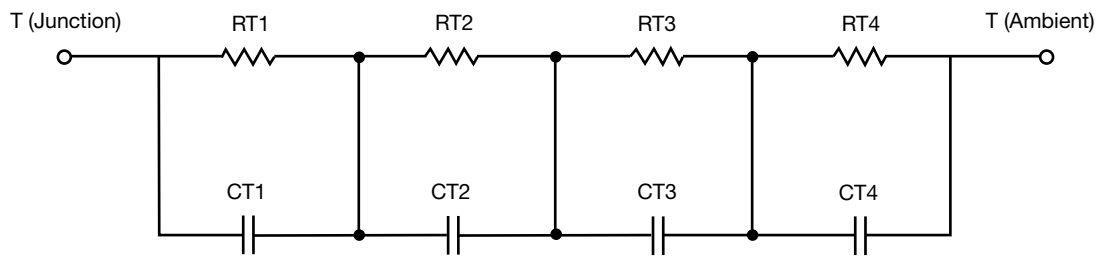
## R-C Thermal Model Parameters

### 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	10.7820	402.1278m	n/a
RT2	15.5447	1.7344	n/a
RT3	3.7425	30.1388m	n/a
RT4	50.8988	235.1717m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.0727	1.5405m	n/a
CT2	19.4091m	7.8601m	n/a
CT3	29.9048m	3.8005	n/a
CT4	1.5339	2.9649m	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	7.5091	574.7471m	n/a
RF2	15.4625	1.4646	n/a
RF3	26.2314	69.5502m	n/a
RF4	31.5370	291.5112m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	5.2015m	666.8084u	n/a
CF2	34.6615m	5.1038m	n/a
CF3	801.7493m	30.5346m	n/a
CF4	1.0419	1.4642m	n/a

Note

- n/a indicates not applicable

