



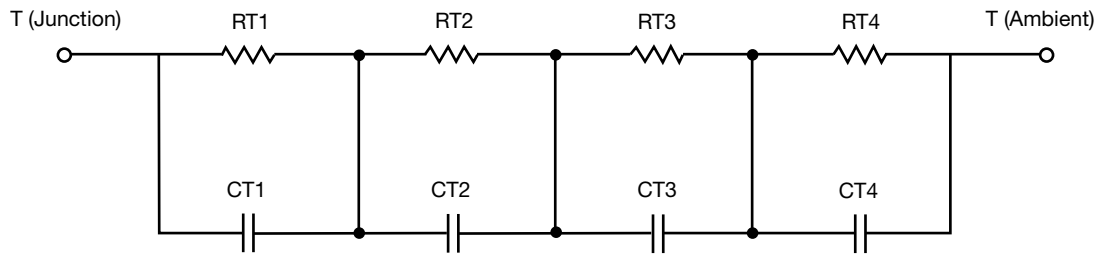
R-C Thermal Model Parameters

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	12.8348	253.0335m	n/a
RT2	3.0165	283.6674m	n/a
RT3	2.9264	259.9340m	n/a
RT4	21.2785	81.5564m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	9.2697	21.2778m	n/a
CT2	54.5873	200.4720m	n/a
CT3	348.8890m	90.6587m	n/a
CT4	3.3909	3.3176m	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	3.4033	55.4423m	n/a
RF2	11.2142	427.8199m	n/a
RF3	19.6214	133.9591m	n/a
RF4	5.7757	260.5330m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	282.6464m	844.0281u	n/a
CF2	1.8486	11.9229m	n/a
CF3	410.7560m	63.4854m	n/a
CF4	8.6560	54.9807m	n/a

Note

- n/a indicates not applicable

