



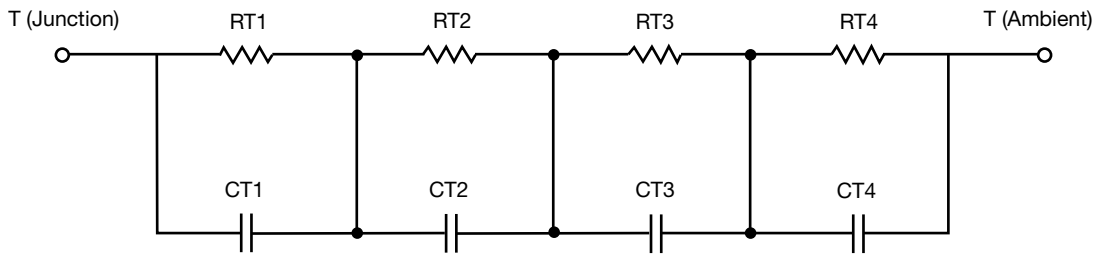
R-C Thermal Model Parameters

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	19.7641	n/a	7.1378
RT2	13.1526	n/a	1.4669
RT3	5.6478	n/a	4.9120
RT4	53.4355	n/a	11.4833
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	96.9851m	n/a	8.0626m
CT2	39.1380m	n/a	1.8982m
CT3	2.3161m	n/a	426.6082m
CT4	1.3429	n/a	34.6812m

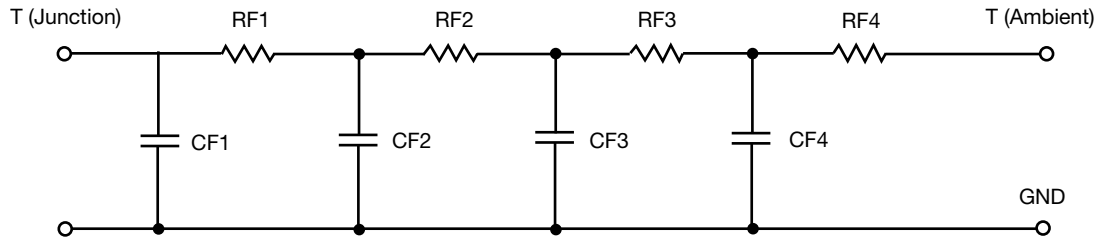
Note

- 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	6.3880	n/a	2.4901
RF2	25.5351	n/a	11.5612
RF3	11.2094	n/a	9.8891
RF4	48.8675	n/a	1.0596
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	2.0156m	n/a	1.3718m
CF2	25.9948m	n/a	6.2120m
CF3	209.5057m	n/a	62.1805m
CF4	1.2458	n/a	3.1770

Note

- n/a indicates not applicable

