



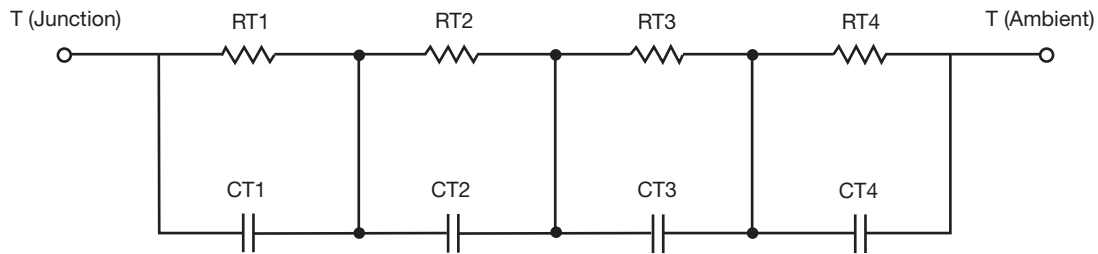
R-C Thermal Model Parameters

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	51.6387	n/a	1.7277
RT2	14.2533	n/a	785.2009m
RT3	13.4128	n/a	10.1546
RT4	5.6401	n/a	8.2948
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.2380	n/a	2.3797m
CT2	150.7465m	n/a	738.0671u
CT3	32.9141m	n/a	9.8805m
CT4	4.0347m	n/a	131.7621m

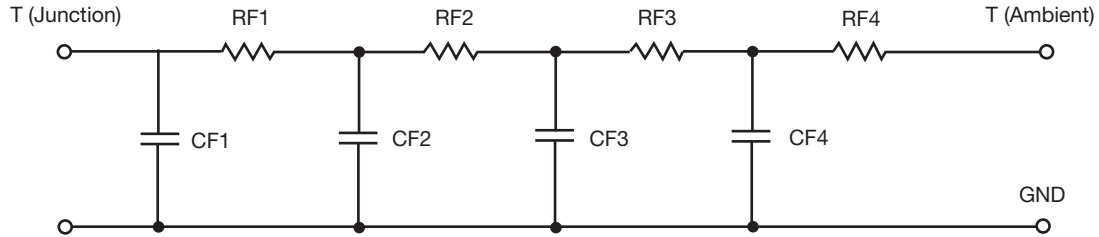
Note

- 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	4.3697	n/a	1.8351
RF2	8.3102	n/a	9.1121
RF3	22.2423	n/a	4.7004
RF4	50.0188	n/a	5.3858
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	3.5567m	n/a	520.8017u
CF2	5.2972m	n/a	5.7616m
CF3	48.9574m	n/a	32.6179m
CF4	1.1933	n/a	146.8031m

Note

- n/a indicates not applicable

