

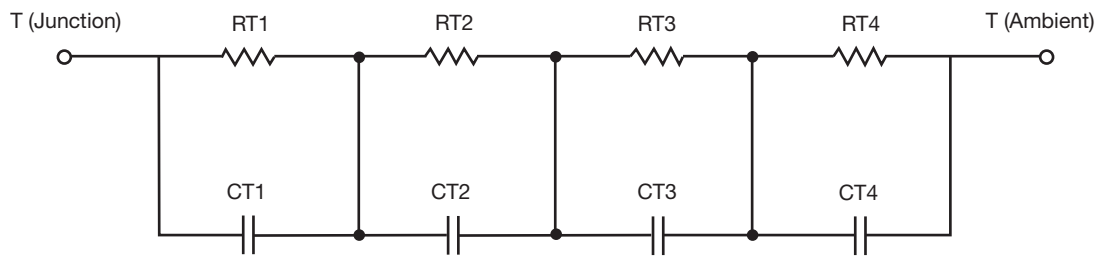
R-C Thermal Model Parameters

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	20.0711	1.9449	n/a
RT2	4.2847	1.3662	n/a
RT3	15.2234	342.5063m	n/a
RT4	50.4208	346.3937m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	11.2807m	1.1010m	n/a
CT2	1.5699m	372.6093u	n/a
CT3	158.9435m	20.3358u	n/a
CT4	1.4471	7.5780m	n/a

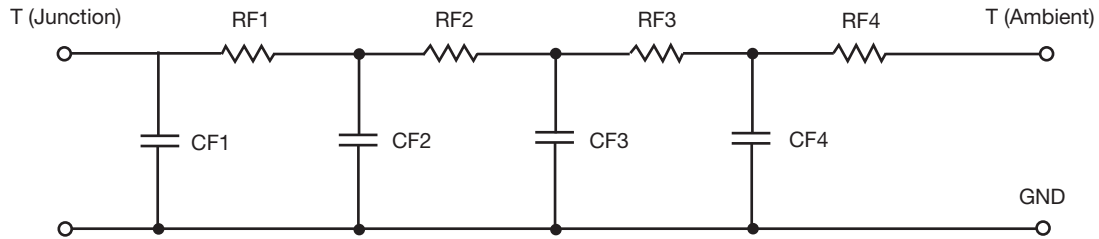
Note

- 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	6.1085	701.7873m	n/a
RF2	21.5578	2.4517	n/a
RF3	15.4113	479.1094m	n/a
RF4	46.9224	367.4033m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.4850m	64.2168u	n/a
CF2	9.8867m	315.5110u	n/a
CF3	160.2852m	1.6700m	n/a
CF4	1.3417	112.1401u	n/a

Note

- n/a indicates not applicable

