

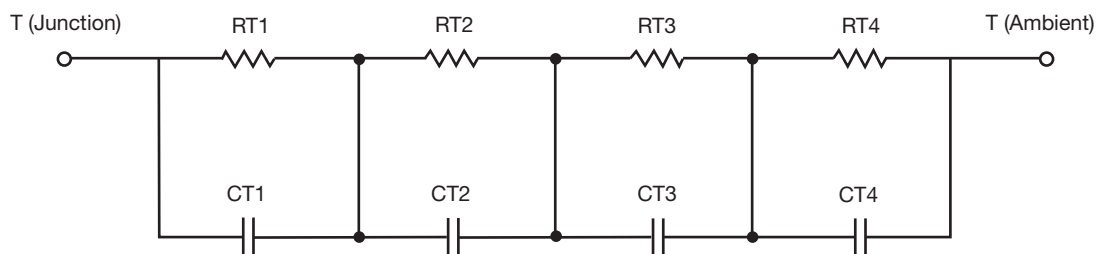
R-C Thermal Model Parameters

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	25.0932	799.2365m	n/a
RT2	7.9506	4.6484	n/a
RT3	20.4473	3.3644	n/a
RT4	36.5089	2.1482	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	6.3323m	3.4906m	n/a
CT2	208.7418u	789.4879u	n/a
CT3	127.5861m	138.3058u	n/a
CT4	2.3526	4.0745m	n/a

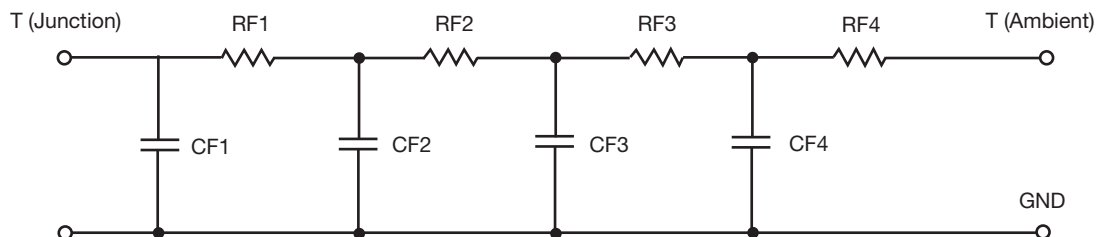
Note

- 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	9.5021	5.3844	n/a
RF2	24.8018	2.5345	n/a
RF3	21.0226	2.1787	n/a
RF4	34.6735	902.4000m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	208.4507u	124.4716u	n/a
CF2	6.1952m	403.4326u	n/a
CF3	103.3809m	1.3860m	n/a
CF4	2.3252	227.2856u	n/a

Note

- n/a indicates not applicable

