

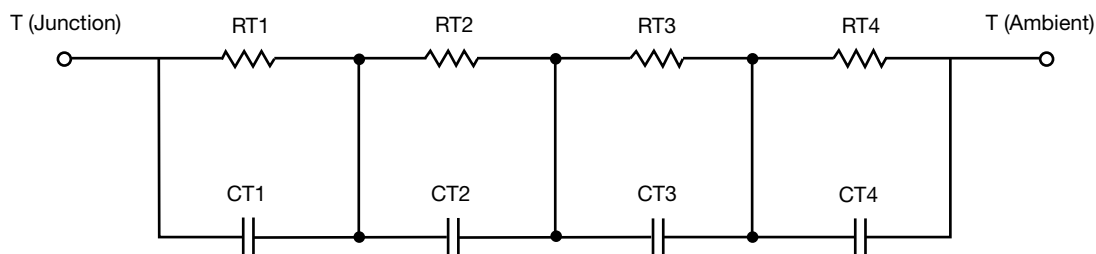
R-C Thermal Model Parameters

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	2.6671	449.5975m	n/a
RT2	29.3595	123.0338m	n/a
RT3	6.0060	66.3865m	n/a
RT4	16.9674	318.2712m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	6.6274m	606.0367u	n/a
CT2	3.7911	11.8078m	n/a
CT3	152.4656m	289.0028u	n/a
CT4	1.1030	3.8717m	n/a

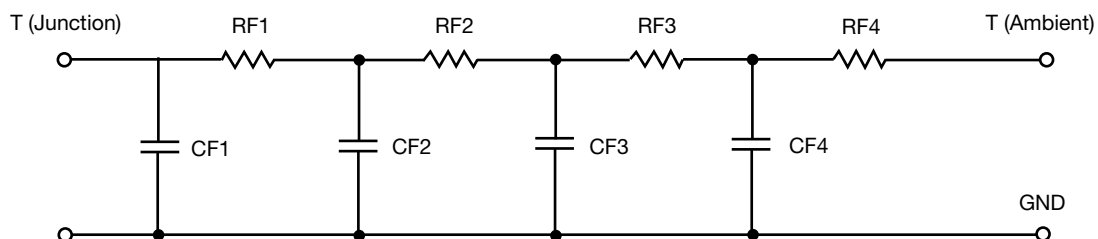
Note

- 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	2.6279	418.7988m	n/a
RF2	7.9638	449.5599m	n/a
RF3	26.9983	84.5780m	n/a
RF4	17.4100	4.7543m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	5.4441m	272.5947u	n/a
CF2	108.4147m	1.1290m	n/a
CF3	810.9383m	12.6444m	n/a
CF4	5.7997	5.3902m	n/a

Note

- n/a indicates not applicable

