

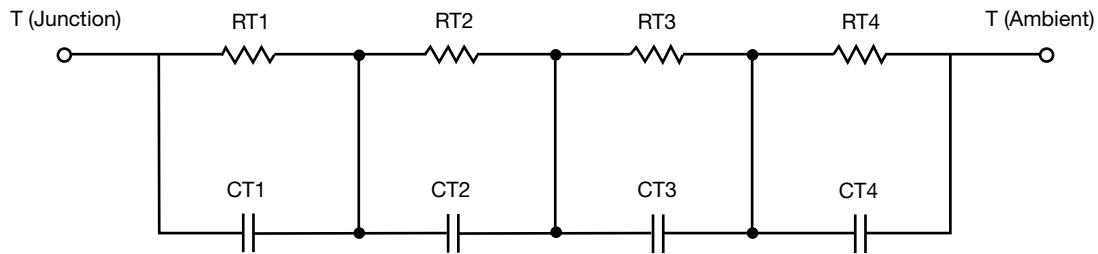
R-C Thermal Model Parameters

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	4.5405	406.6160m	n/a
RT2	12.4709	360.0040m	n/a
RT3	12.8463	1.0394	n/a
RT4	35.1423	93.9800m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	2.4749m	414.1582u	n/a
CT2	1.0788	18.7328m	n/a
CT3	33.1030m	2.8107m	n/a
CT4	2.6316	244.5937m	n/a

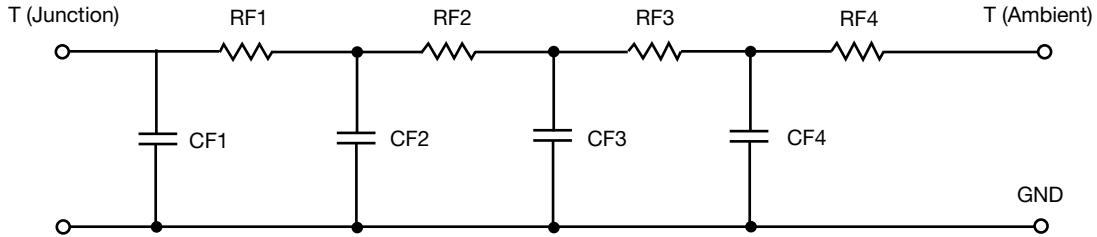
Note

- 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	5.1172	423.0320m	n/a
RF2	13.0819	1.2347	n/a
RF3	20.5968	63.3160m	n/a
RF4	26.2041	178.9520m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	2.4047m	293.6127u	n/a
CF2	28.8800m	1.9115m	n/a
CF3	683.5987m	30.0653m	n/a
CF4	2.6123	3.3299m	n/a

Note

- n/a indicates not applicable

