



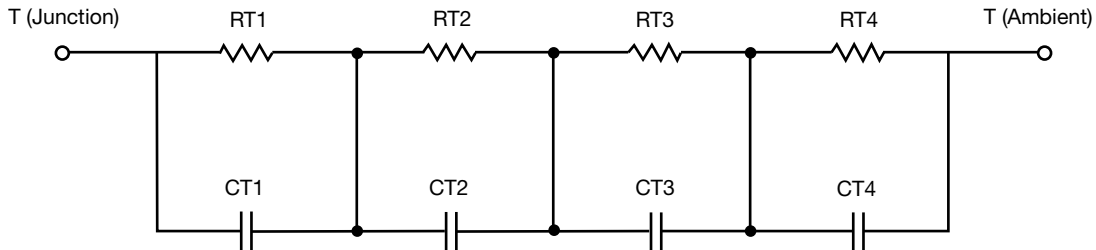
R-C Thermal Model Parameters

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 P-SPICE, 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 P-SPICE 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	7.4051	N/A	17.9899
RT2	42.0055	N/A	38.8439
RT3	50.3084	N/A	7.6459
RT4	75.2810	N/A	10.5395
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	82.0308u	N/A	5.1505m
CT2	1.0563m	N/A	575.6014u
CT3	10.3013m	N/A	6.9564m
CT4	861.7277m	N/A	80.2853u

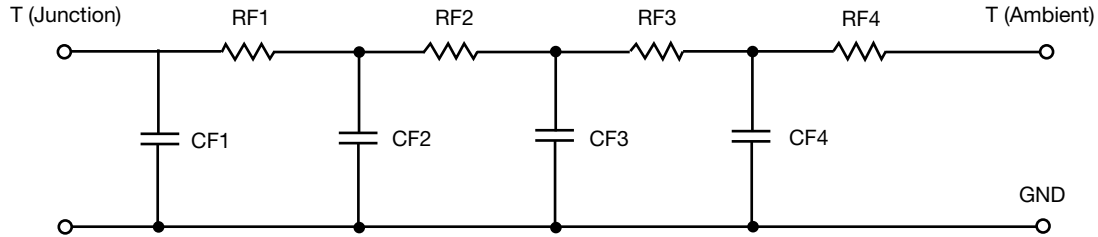
Note

- 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	25.6357	N/A	15.1714
RF2	54.7634	N/A	36.9020
RF3	28.6582	N/A	12.5018
RF4	65.9427	N/A	10.4248
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	264.5067u	N/A	77.6461u
CF2	2.1836m	N/A	408.9299u
CF3	58.3375m	N/A	758.6027u
CF4	1.0908	N/A	4.7915m

Note

- n/a indicates not applicable

