

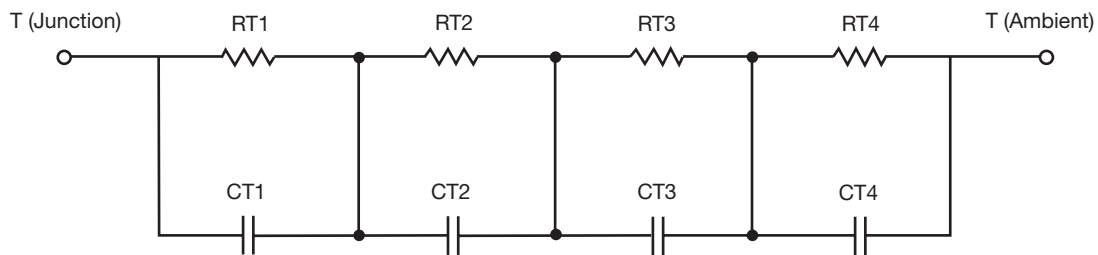
R-C Thermal Model Parameters

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 P-SPICE Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	N/A	2.3544	N/A
RT2	N/A	15.0682	N/A
RT3	N/A	15.4090	N/A
RT4	N/A	7.1684	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	N/A	2.0157 m	N/A
CT2	N/A	89.5756 m	N/A
CT3	N/A	610.6322 m	N/A
CT4	N/A	19.3362 m	N/A

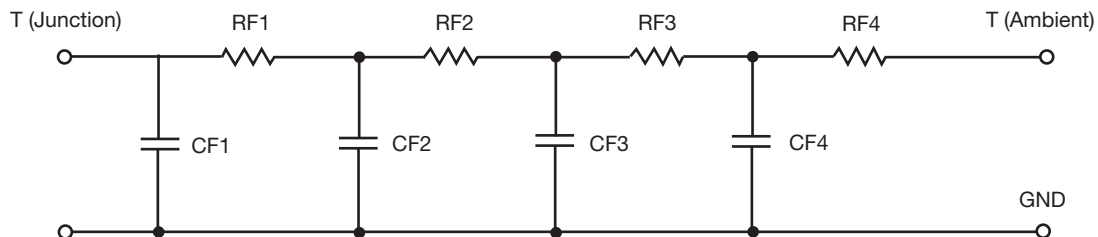
Note

- 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	N/A	5.5395	N/A	
RF2	N/A	17.5783	N/A	
RF3	N/A	8.4846	N/A	
RF4	N/A	8.3976	N/A	
THERMAL CAPACITANCE (Joules/°C)				
Junction to	Ambient	Case	Foot	
CF1	N/A	3.3395 m	N/A	
CF2	N/A	32.3186 m	N/A	
CF3	N/A	375.4957 m	N/A	
CF4	N/A	1.3501 m	N/A	

Note

- N/A indicates not applicable

