

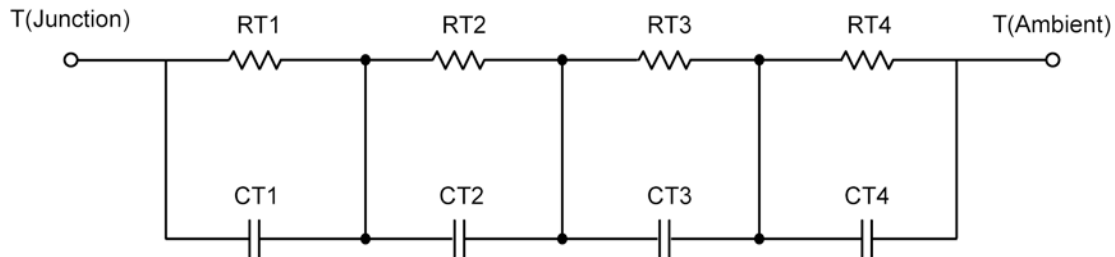
R-C Thermal Model Parameters

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.

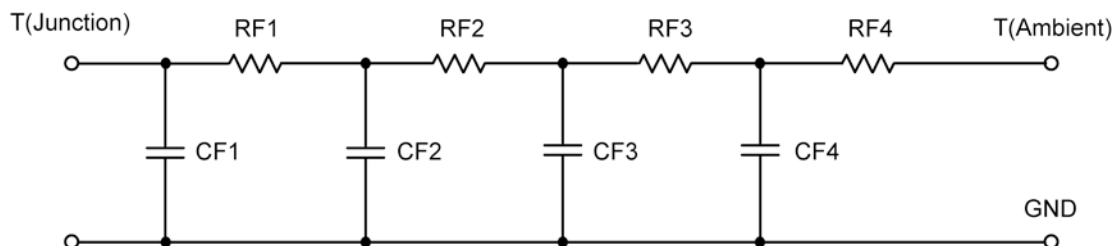
These RC values can be used in the P-SPICE simulation to evaluate the thermal behavior of the MOSFET junction temperature under a defined power profile. These techniques are described in Application Note AN609, "Thermal Simulation of Power MOSFETs on the P-Spice Platform."

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
Thermal Resistance (°C/W)			
Junction to	Ambient	Case	Foot
RT1	1.6182	21.5167 m	N/A
RT2	10.8807	261.4994 m	N/A
RT3	9.6135	601.8471 m	N/A
RT4	42.8876	615.1368 m	N/A
Thermal Capacitance (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	11.3360 m	10.2173 m	N/A
CT2	1.0651	1.9199 m	N/A
CT3	67.7955 m	19.7378 m	N/A
CT4	1.7483	35.2926 m	N/A

This document is intended as a SPICE modeling guideline and does not constitute a commercial product data sheet. Designers should refer to the appropriate data sheet of the same number for guaranteed specification limits.

R-C THERMAL MODEL FOR FILTER CONFIGURATION**R-C VALUES FOR FILTER CONFIGURATION**

Thermal Resistance ($^{\circ}\text{C}/\text{W}$)			
Junction to	Ambient	Case	Foot
RF1	2.8362	304.2276 m	N/A
RF2	11.2511	850.7585 m	N/A
RF3	20.3374	320.3752 m	N/A
RF4	30.5753	24.6387 m	N/A
Thermal Capacitance (Joules/ $^{\circ}\text{C}$)			
Junction to	Ambient	Case	Foot
CF1	18.0920 m	1.3214 m	N/A
CF2	52.8432 m	8.9828 m	N/A
CF3	633.8348 m	39.1002 m	N/A
CF4	1.5002	17.2111 m	N/A

Note

NA indicates not applicable

