

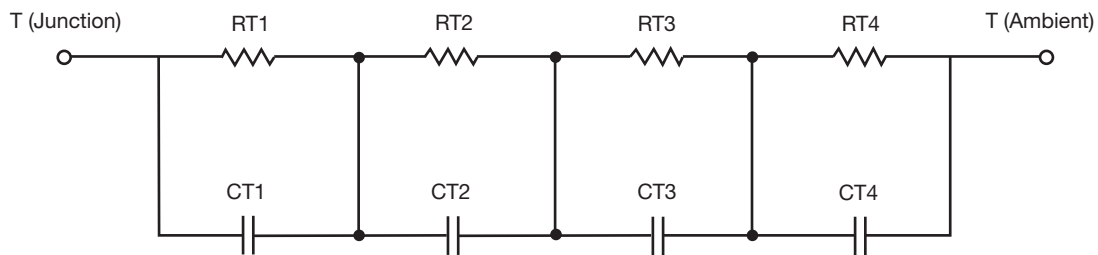
R-C Thermal Model Parameters

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

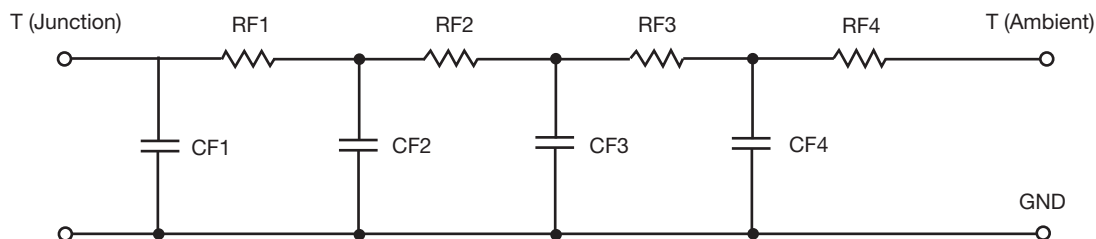


R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	25.0974	N/A	2.9555
RT2	15.0055	N/A	9.6714
RT3	7.2963	N/A	5.2818
RT4	47.6008	N/A	4.0913
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	6.8782m	N/A	350.5225m
CT2	120.2513m	N/A	1.7526m
CT3	636.1279u	N/A	3.1424m
CT4	1.6277	N/A	211.0064u

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	5.3231	N/A	7.0820
RF2	24.3905	N/A	7.7875
RF3	18.9915	N/A	4.6993
RF4	46.2949	N/A	2.4312
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	292.3452u	N/A	227.8687u
CF2	3.9300m	N/A	1.0478m
CF3	57.3515m	N/A	1.8691m
CF4	1.6058	N/A	534.9725m

Note

N/A indicates not applicable

