

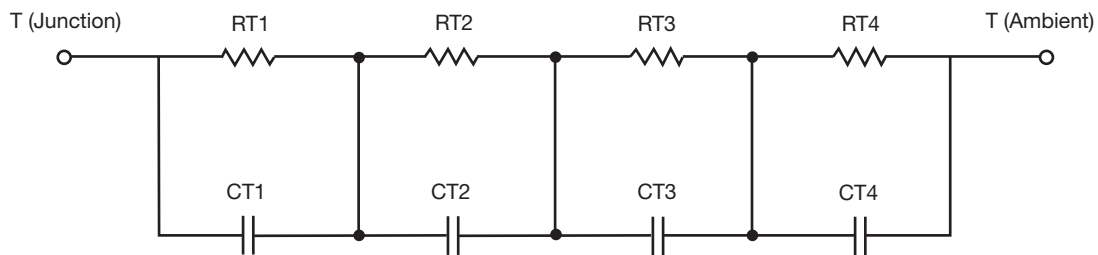
R-C Thermal Model Parameters

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	6.4134	N/A	14.1195
RT2	22.8661	N/A	13.2690
RT3	25.4340	N/A	4.6943
RT4	54.9375	N/A	12.7052
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.6764m	N/A	17.9087m
CT2	12.8743m	N/A	2.9530m
CT3	78.6255m	N/A	173.9740u
CT4	1.4086	N/A	103.0980m

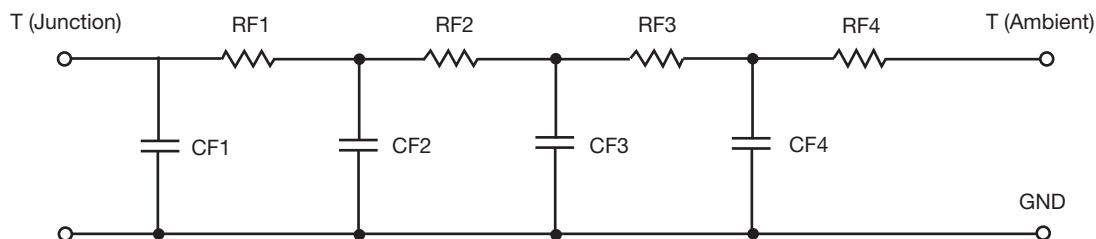
Note

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	8.1302	N/A	6.6748
RF2	29.4000	N/A	19.1672
RF3	20.4804	N/A	12.9495
RF4	51.9140	N/A	6.0980
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.3624m	N/A	215.0158u
CF2	10.1976m	N/A	3.0638m
CF3	85.7585m	N/A	24.0822m
CF4	1.3970	N/A	225.3174m

Note

N/A indicates not applicable

