

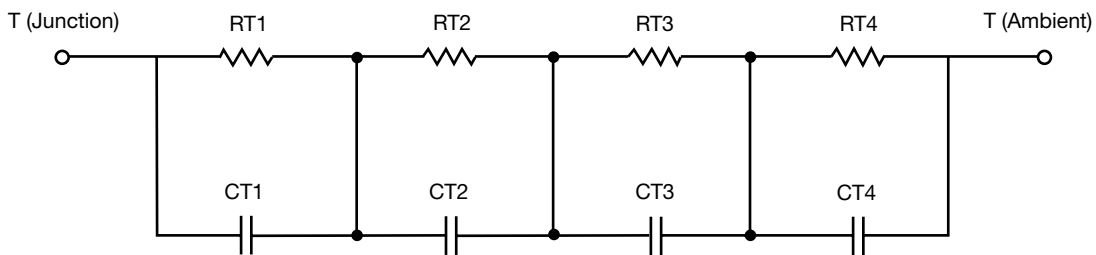
R-C Thermal Model Parameters

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	12.5863	384.2348m	N/A
RT2	27.6707	449.3765m	N/A
RT3	7.5484	350.3041m	N/A
RT4	2.2466	638.3870m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.8680	89.6880m	N/A
CT2	4.2841	1.0834m	N/A
CT3	336.7592m	843.8527m	N/A
CT4	16.4235m	24.3456m	N/A

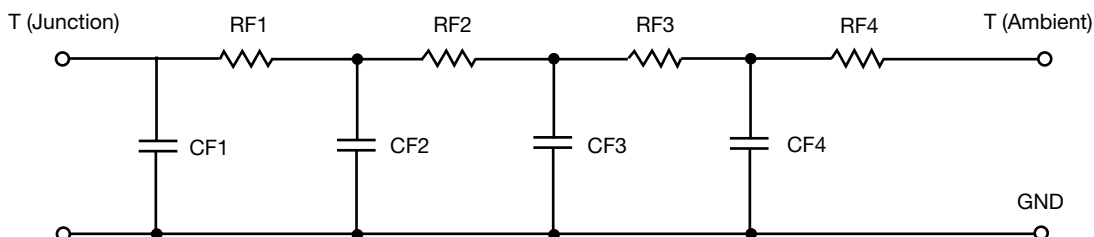
Note

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	2.6328	502.6928m	N/A
RF2	10.2887	124.4285m	N/A
RF3	17.0731	817.5777m	N/A
RF4	19.9485	346.9437m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	18.0870m	1.0641m	N/A
CF2	255.6859m	17.7122m	N/A
CF3	941.4717m	973.2333u	N/A
CF4	3.9953	504.6823m	N/A

Note

N/A indicates not applicable

