

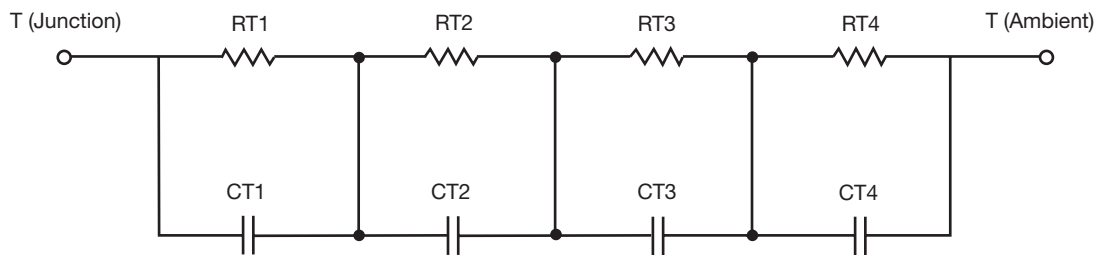
R-C Thermal Model Parameters

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

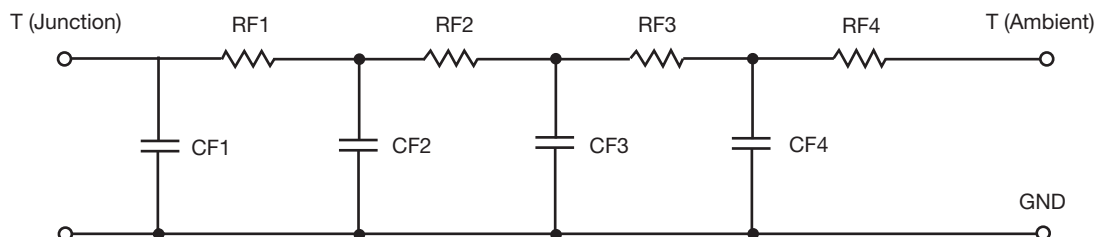


R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	51.5349	N/A	16.1115
RT2	19.0585	N/A	5.8203
RT3	31.9672	N/A	5.4349
RT4	17.4394	N/A	18.6333
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	2.3596	N/A	1.3153 m
CT2	229.6019 m	N/A	831.7734 u
CT3	6.0917 m	N/A	78.6534 u
CT4	247.5739 u	N/A	5.8333 m

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	18.7004	N/A	10.4511
RF2	32.2643	N/A	22.6298
RF3	20.6899	N/A	1.7583
RF4	48.3454	N/A	11.1608
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	212.0408 u	N/A	88.1241 u
CF2	5.7232 m	N/A	832.8508 u
CF3	203.1304 m	N/A	6.5222 m
CF4	2.2192	N/A	2.1032 m

Note

N/A indicates not applicable

