

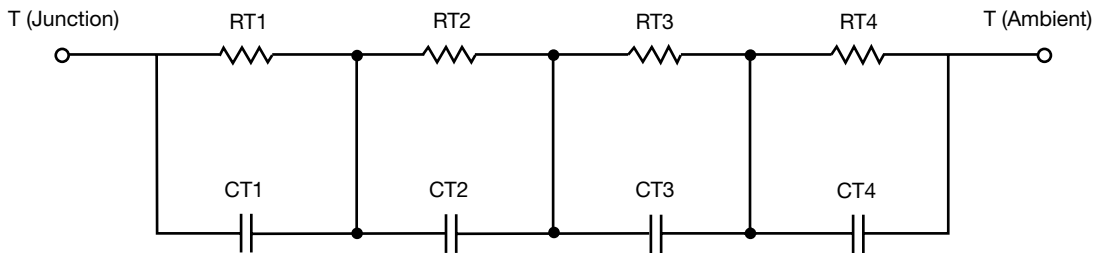
R-C Thermal Model Parameters

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	507.2310m	15.0073m	N/A
RT2	36.1581	129.3427m	N/A
RT3	1.9095	133.8498m	N/A
RT4	1.3665	124.6985m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	93.2810m	4.1171	N/A
CT2	2.6440	58.9664m	N/A
CT3	604.6399m	4.3312m	N/A
CT4	140.0800m	14.5462m	N/A

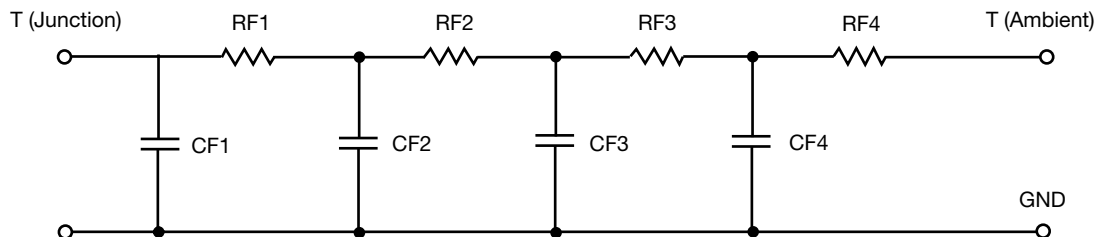
Note

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	928.4645m	295.7579m	N/A
RF2	964.1021m	41.7043m	N/A
RF3	2.5784	42.0753m	N/A
RF4	35.3222	21.0990m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	70.1560m	3.5461m	N/A
CF2	331.9091m	95.4758m	N/A
CF3	250.3438m	964.7347u	N/A
CF4	1.8938	248.7707m	N/A

Note

N/A indicates not applicable

