

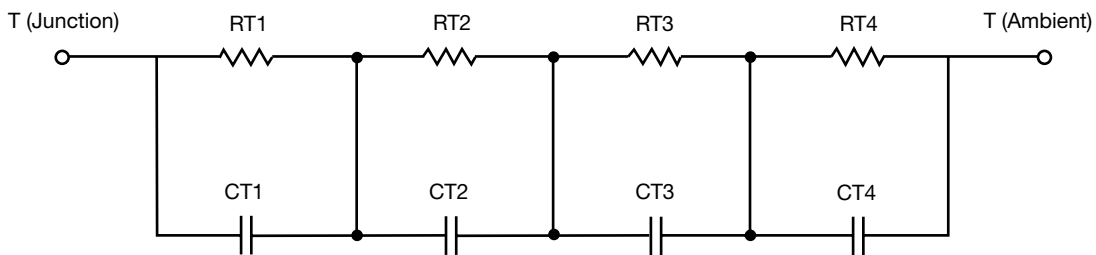
R-C Thermal Model Parameters

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	4.6072	338.8468m	N/A
RT2	51.8884	1.9740	N/A
RT3	14.3172	1.0814	N/A
RT4	9.6856	1.1239	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	85.6475m	68.1912m	N/A
CT2	1.1641	5.1302m	N/A
CT3	95.0235m	18.9624m	N/A
CT4	5.9275m	569.7264u	N/A

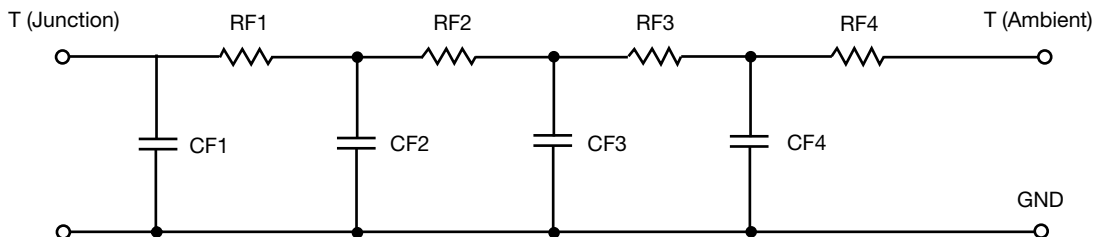
Note

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	3.4507	1.2505	N/A
RF2	17.5051	1.7799	N/A
RF3	13.3209	1.3554	N/A
RF4	46.4256	110.8898m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.1898m	459.1243u	N/A
CF2	13.4756m	2.4749m	N/A
CF3	193.3877m	5.6137m	N/A
CF4	1.1551	10.4454m	N/A

Note
N/A indicates not applicable

