



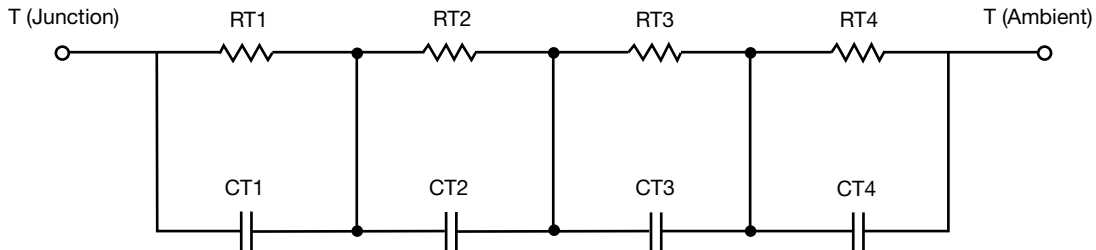
R-C Thermal Model Parameters

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	1.3268	183.8400m	N/A
RT2	14.2501	673.8600m	N/A
RT3	22.1894	1.4447	N/A
RT4	52.2337	1.6976	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	82.6640u	35.1412m	N/A
CT2	6.0082m	148.4840u	N/A
CT3	49.2242m	1.0594m	N/A
CT4	1.3491	730.9526u	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	6.4287	721.2799m	N/A
RF2	22.4787	1.8363	N/A
RF3	16.4303	839.3397m	N/A
RF4	44.6623	603.0804m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.5457m	78.0570u	N/A
CF2	10.6672m	227.4741u	N/A
CF3	209.2405m	1.0005m	N/A
CF4	1.5030	88.8663u	N/A

Note

- n/a indicates not applicable

