



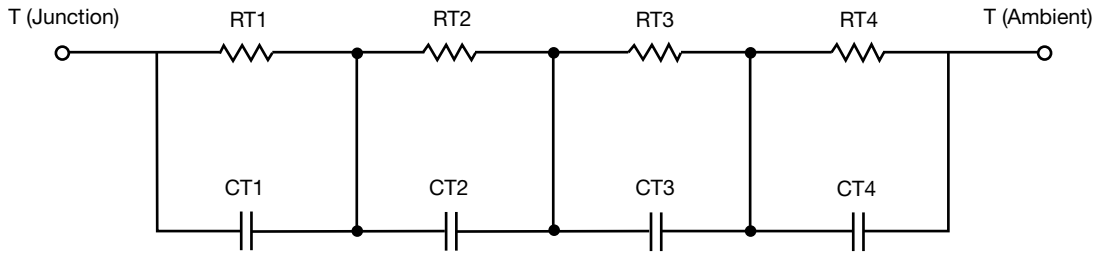
R-C Thermal Model Parameters

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 PSpice, 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 PSpice 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 PSpice Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	20.1912	306.0930m	n/a
RT2	11.0101	141.8512m	n/a
RT3	1.9327	311.3674m	n/a
RT4	28.5281	338.6200m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	3.4129	47.3926m	n/a
CT2	1.0705	1.4185m	n/a
CT3	54.3960m	20.6384m	n/a
CT4	242.1029m	6.1296m	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	1.7420	267.9093m	n/a
RF2	13.7115	105.2170m	n/a
RF3	31.0129	216.3020m	n/a
RF4	15.2965	504.0723m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	35.9407m	1.0268m	n/a
CF2	95.7700m	4.3099m	n/a
CF3	118.5585m	19.7623u	n/a
CF4	4.2354	7.6703m	n/a

Note

- n/a indicates not applicable

