



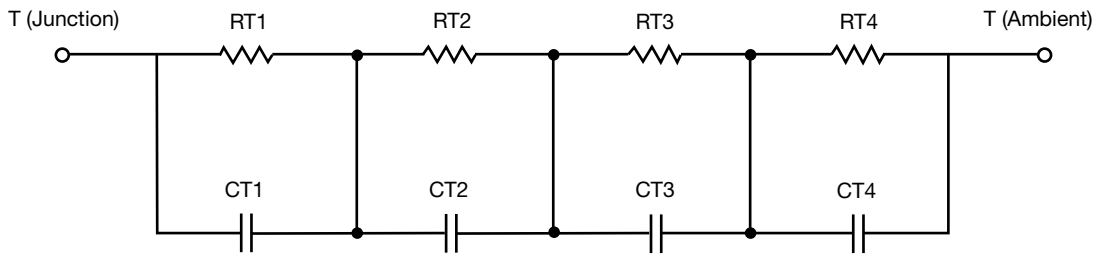
R-C Thermal Model Parameters

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	48.9050	1.5961	n/a
RT2	3.3048	2.1168	n/a
RT3	13.7719	1.7511	n/a
RT4	15.0183	836.0000m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.4821	437.6240u	n/a
CT2	601.8151u	7.3305m	n/a
CT3	10.9129m	7.6224m	n/a
CT4	133.5210m	11.6374m	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	3.4770	1.8343	n/a
RF2	15.6864	1.1993	n/a
RF3	16.0329	2.7650	n/a
RF4	45.8037	501.4000m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	502.6849u	344.4842u	n/a
CF2	9.1005m	1.3828m	n/a
CF3	122.2334m	2.1045m	n/a
CF4	1.4555	1.5428m	n/a

Note

- n/a indicates not applicable

