

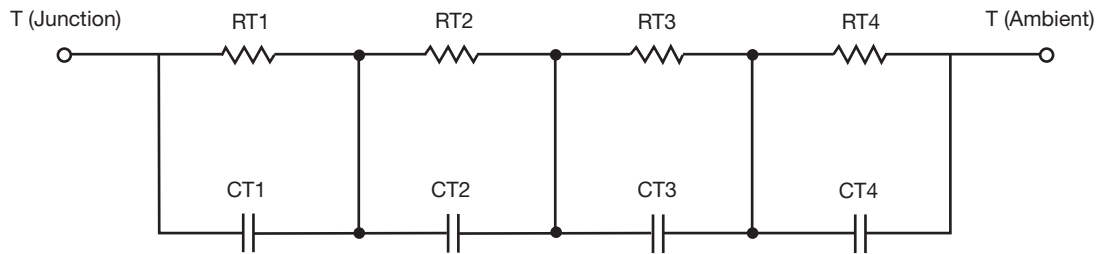
R-C Thermal Model Parameters

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	5.7450	714.3203m	n/a
RT2	12.9065	1.2001	n/a
RT3	13.8396	33.4561m	n/a
RT4	37.5089	952.1236m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	2.3814m	2.1305m	n/a
CT2	2.1822	81.3986m	n/a
CT3	82.5484m	79.3460u	n/a
CT4	2.0975	33.2471m	n/a

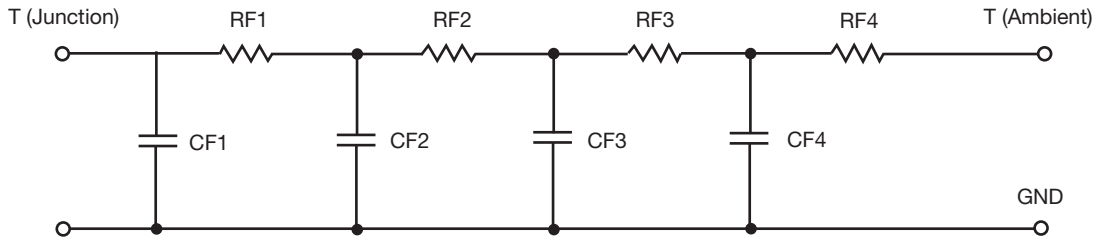
Note

- 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	5.0229	777.8998m	n/a
RF2	13.8391	556.7790m	n/a
RF3	13.2889	276.5068m	n/a
RF4	37.8491	1.2888	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.4962m	1.6067m	n/a
CF2	51.2377m	15.7144m	n/a
CF3	566.5717m	12.6966u	n/a
CF4	1.0363	32.4387m	n/a

Note

- n/a indicates not applicable

