

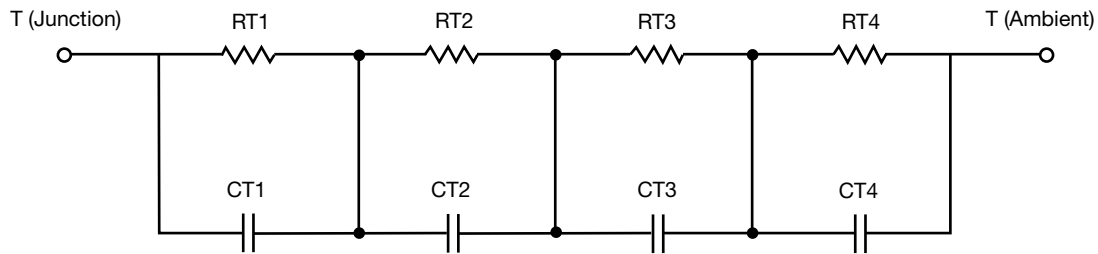
## R-C Thermal Model Parameters

### 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	17.1276	88.3471m	n/a
RT2	18.7934	171.3226m	n/a
RT3	3.4460	2.2951m	n/a
RT4	633.0000m	138.0352m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	6.0385	4.3907m	n/a
CT2	4.8418	38.7697m	n/a
CT3	1.0801	453.5574m	n/a
CT4	135.5474m	9.8176m	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	395.9000m	8.2884m	n/a
RF2	3.6827	52.9490m	n/a
RF3	29.4697	241.0621m	n/a
RF4	6.4517	97.7005m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	18.0023m	1.4989m	n/a
CF2	420.7831m	529.8461u	n/a
CF3	1.9529	2.9335m	n/a
CF4	6.2882	93.7811m	n/a

Note

- n/a indicates not applicable

