

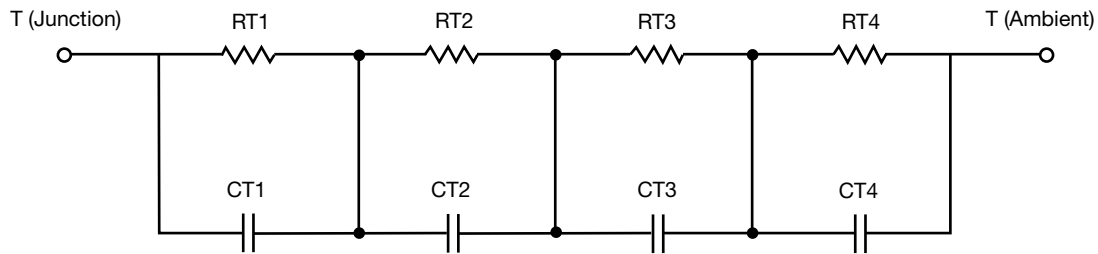
## R-C Thermal Model Parameters

### 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	17.4576	134.8765m	n/a
RT2	25.6216	584.5464m	n/a
RT3	8.8790	101.1617m	n/a
RT4	2.0418	379.4154m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.5215	1.0962m	n/a
CT2	4.9648	30.8338m	n/a
CT3	113.2358m	35.2189m	n/a
CT4	14.5687m	262.5790m	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	2.5775	169.8057m	n/a
RF2	9.8426	442.9905m	n/a
RF3	25.3737	237.2374m	n/a
RF4	16.2062	349.9666m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	11.1008m	1.1189m	n/a
CF2	97.6596m	18.2300m	n/a
CF3	1.0471	366.0488u	n/a
CF4	6.0257	220.4844m	n/a

Note

- n/a indicates not applicable

