

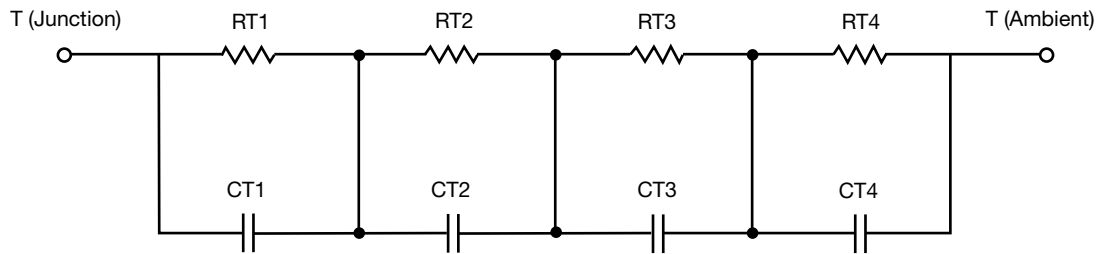
## R-C Thermal Model Parameters

### 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	217.6824	n/a	n/a
RT2	33.9208	n/a	n/a
RT3	321.6737	n/a	n/a
RT4	101.7231	n/a	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	784.3344u	n/a	n/a
CT2	68.2932u	n/a	n/a
CT3	4.1554m	n/a	n/a
CT4	141.0828m	n/a	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	44.5023	n/a	n/a
RF2	242.6668	n/a	n/a
RF3	277.9372	n/a	n/a
RF4	109.8937	n/a	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	68.3703u	n/a	n/a
CF2	555.3834u	n/a	n/a
CF3	2.7193m	n/a	n/a
CF4	83.7700m	n/a	n/a

Note

- n/a indicates not applicable

