



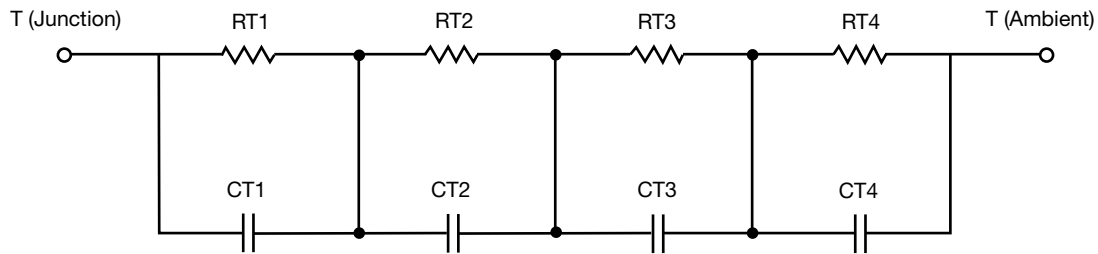
# R-C Thermal Model Parameters

## 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	n/a	560.6884m	n/a
RT2	n/a	912.8116m	n/a
RT3	n/a	1.0553	n/a
RT4	n/a	1.0712	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	n/a	1.3526m	n/a
CT2	n/a	42.5681m	n/a
CT3	n/a	38.4368m	n/a
CT4	n/a	37.3527m	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	n/a	637.6513m	n/a
RF2	n/a	295.8678m	n/a
RF3	n/a	2.0165	n/a
RF4	n/a	649.9809m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	n/a	1.1097m	n/a
CF2	n/a	8.9794m	n/a
CF3	n/a	3.7810m	n/a
CF4	n/a	244.7360u	n/a

Note

- n/a indicates not applicable

