



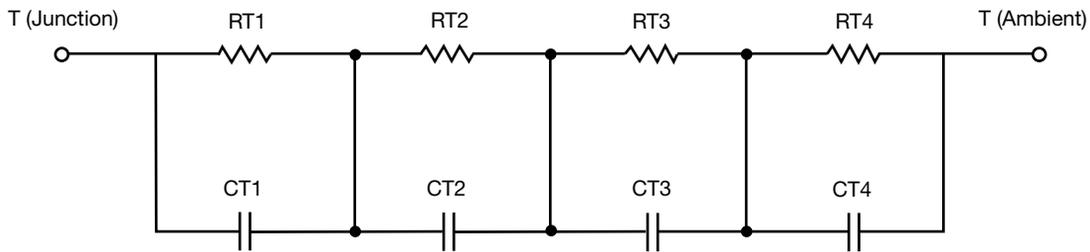
# R-C Thermal Model Parameters

## 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	51.9465m	n/a
RT2	n/a	99.0433m	n/a
RT3	n/a	82.9642m	n/a
RT4	n/a	76.0460m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	n/a	68.4717m	n/a
CT2	n/a	639.0471m	n/a
CT3	n/a	50.6723u	n/a
CT4	n/a	57.5783u	n/a

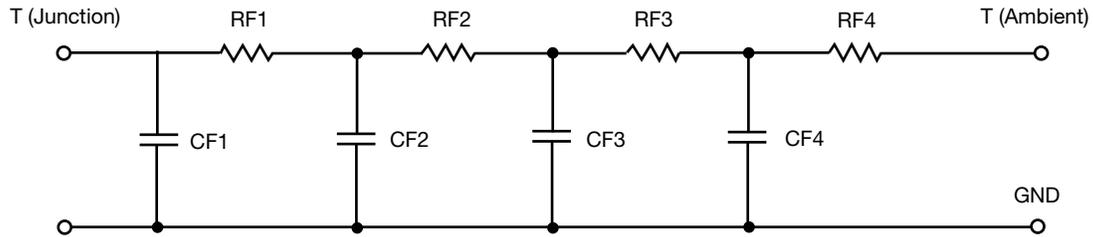
### Note

- 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



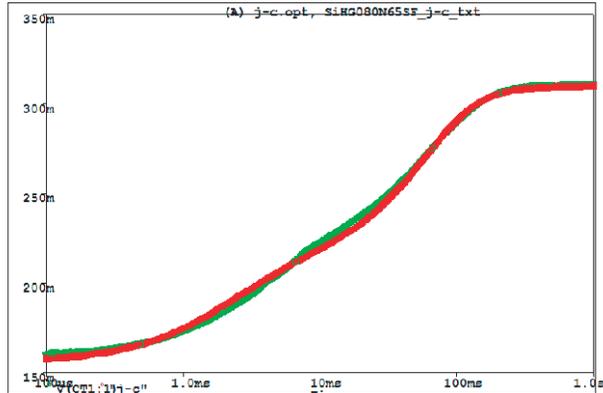
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	n/a	159.1301m	n/a
RF2	n/a	48.3163n	n/a
RF3	n/a	63.9270m	n/a
RF4	n/a	86.2642m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	n/a	5.3387u	n/a
CF2	n/a	4.6192u	n/a
CF3	n/a	65.7878m	n/a
CF4	n/a	677.4351m	n/a

Note

- n/a indicates not applicable

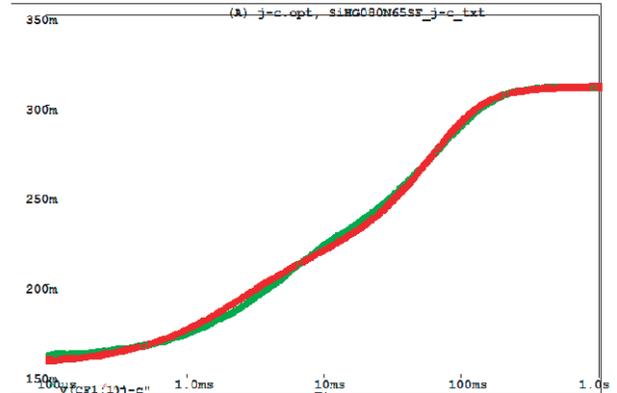


SiHG080N65SF Tank j-c Temperature: 27.0



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SiHG080N65SF Filter j-c Temperature: 27.0



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