

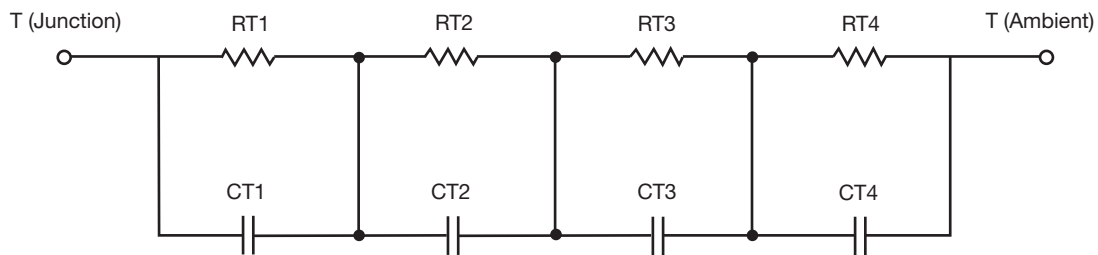
## R-C Thermal Model Parameters

### 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 P-SPICE, 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 P-SPICE 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 P-SPICE 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	290.6231m	N/A
RT2	N/A	327.3704m	N/A
RT3	N/A	108.6188m	N/A
RT4	N/A	23.3877m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	N/A	193.7908m	N/A
CT2	N/A	27.4731m	N/A
CT3	N/A	6.9735m	N/A
CT4	N/A	1.3730m	N/A

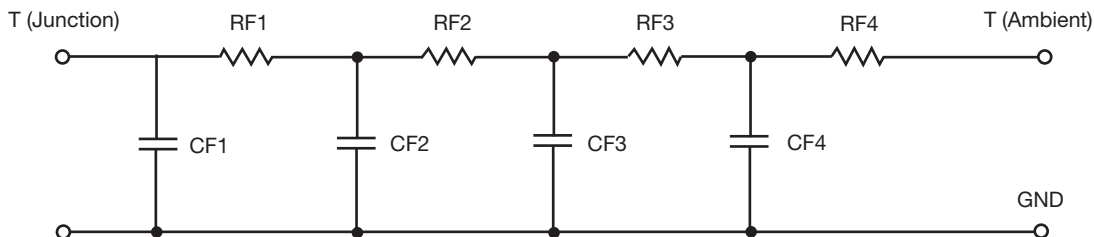
#### Note

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



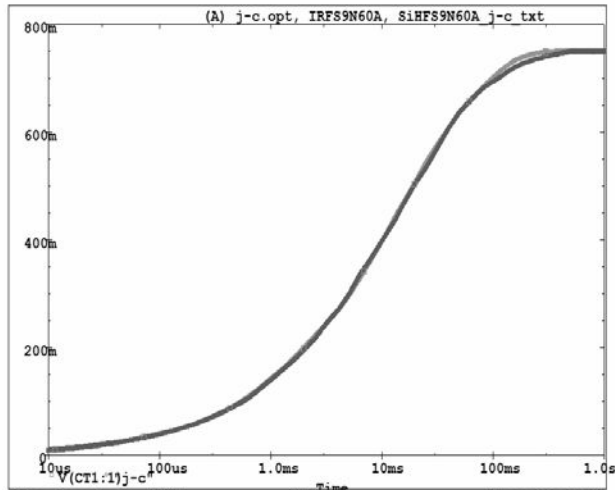
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	N/A	108.5126m	N/A
RF2	N/A	297.6185m	N/A
RF3	N/A	271.3182m	N/A
RF4	N/A	72.5507m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	N/A	2.4788m	N/A
CF2	N/A	12.3680m	N/A
CF3	N/A	69.9519m	N/A
CF4	N/A	1.3688	N/A

**Note**

N/A indicates not applicable

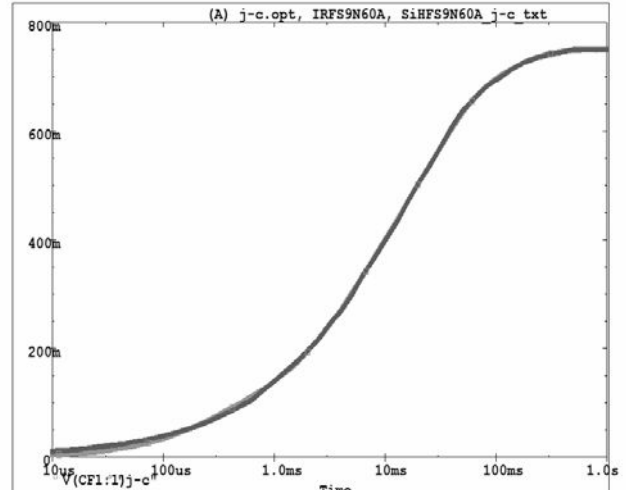


IRFS9N60A, SiHFS9N60A Tank j-c Temperature: 27.0



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IRFS9N60A, SiHFS9N60A Filter j-c Temperature: 27.0



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