

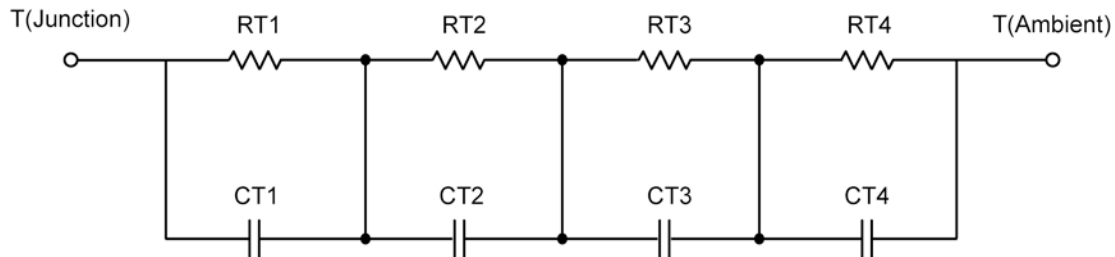
## R-C Thermal Model Parameters

### 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."

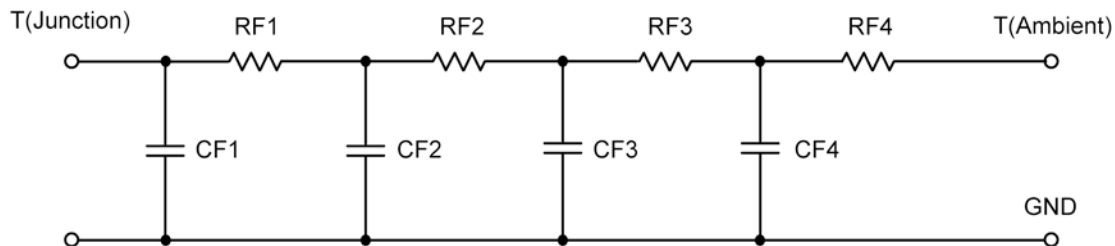
### R-C THERMAL MODEL FOR TANK CONFIGURATION



#### R-C VALUES FOR TANK CONFIGURATION

Thermal Resistance ( $^{\circ}\text{C}/\text{W}$ )			
Junction to	Ambient	Case	Foot
RT1	10.0679	N/A	2.3723
RT2	2.5692	N/A	7.6539
RT3	45.6494	N/A	2.7113
RT4	26.7135	N/A	12.2625
Thermal Capacitance (Joules/ $^{\circ}\text{C}$ )			
Junction to	Ambient	Case	Foot
CT1	12.0849 m	N/A	639.9809 u
CT2	536.6335 u	N/A	9.2486 m
CT3	1.3531	N/A	463.6974 m
CT4	62.5585 m	N/A	70.3636 m

*This document is intended as a SPICE modeling guideline and does not constitute a commercial product data sheet. Designers should refer to the appropriate data sheet of the same number for guaranteed specification limits.*

**R-C THERMAL MODEL FOR FILTER CONFIGURATION****R-C VALUES FOR FILTER CONFIGURATION**

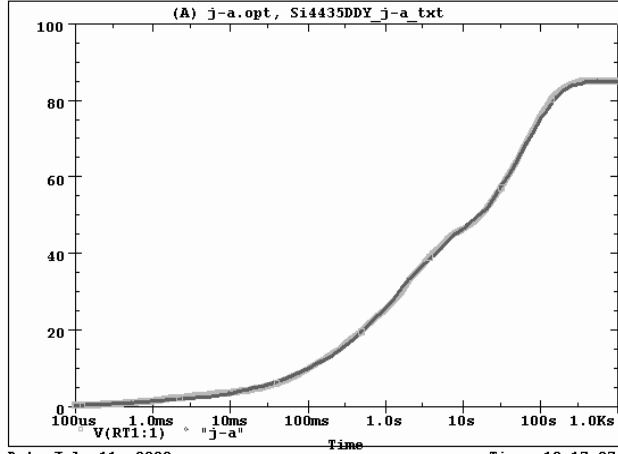
Thermal Resistance (°C/W)			
Junction to	Ambient	Case	Foot
RF1	3.1513	N/A	2.6928
RF2	16.9724	N/A	10.0087
RF3	23.0698	N/A	7.2768
RF4	41.8065	N/A	5.0217
Thermal Capacitance (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	869.8273 u	N/A	592.5592 u
CF2	11.4743 m	N/A	7.6428 m
CF3	75.6833 m	N/A	62.4334 m
CF4	1.4839	N/A	28.3770 m

**Note**

NA indicates not applicable

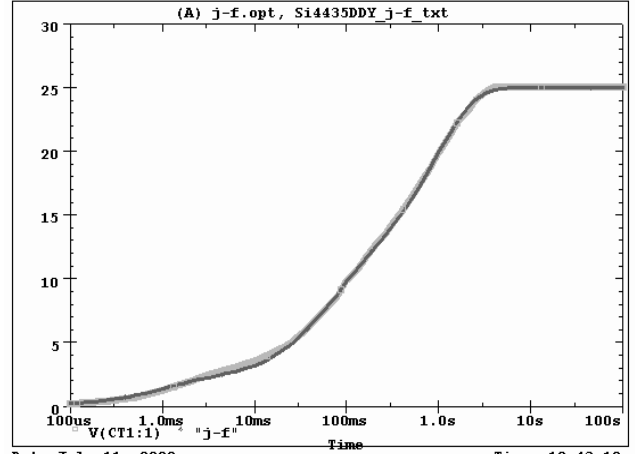


Si4435DDY Tank j-a Temperature:27.0



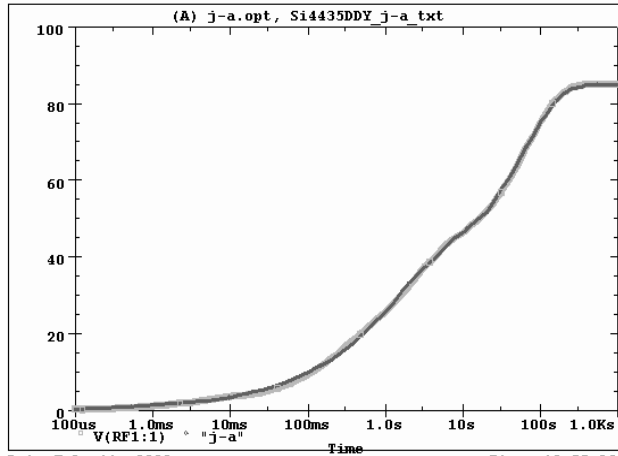
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Si4435DDY Tank j-f Temperature:27.0



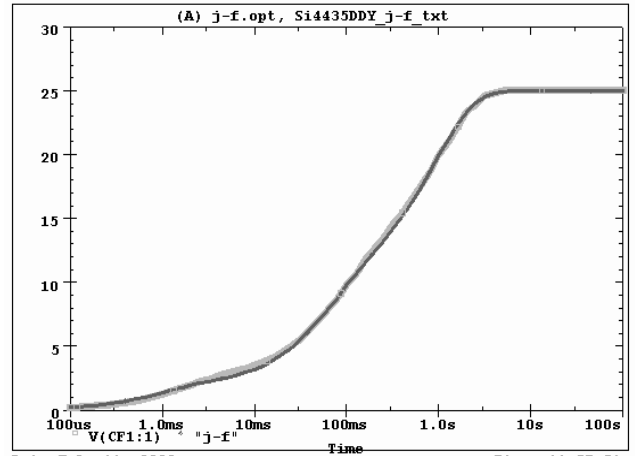
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Si4435DDY Filter j-a Temperature:27.0



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Si4435DDY Filter j-f Temperature:27.0



Date:July 11, 2008 Time: 11:57:51