

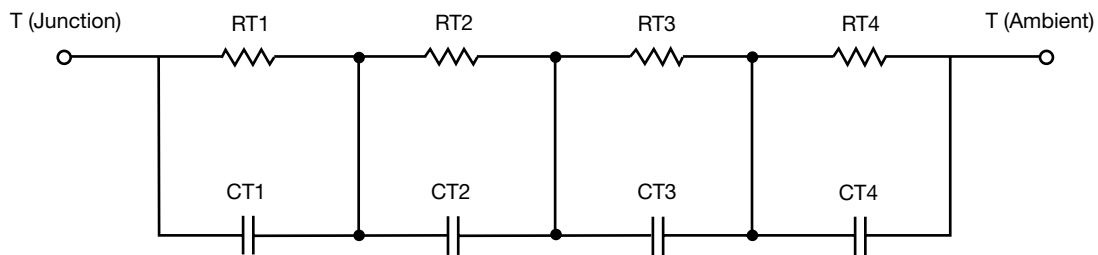
R-C Thermal Model Parameters

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	6.1833	56.3662m	N/A
RT2	11.6011	1.3407	N/A
RT3	10.8287	412.3338m	N/A
RT4	56.3869	1.2906	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	5.0195m	2.3936m	N/A
CT2	321.5428m	11.8623m	N/A
CT3	36.1216m	1.9420m	N/A
CT4	1.3456	6.8837m	N/A

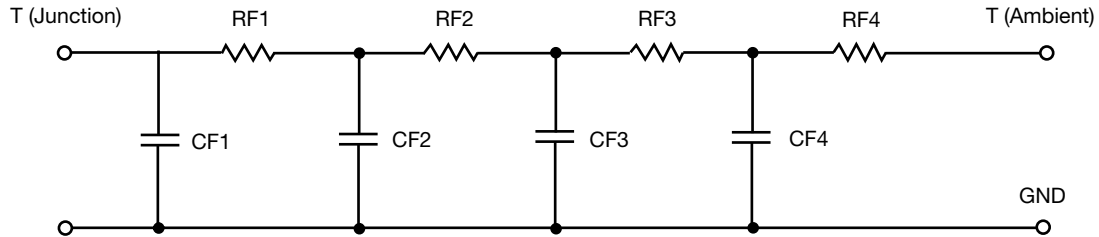
Note

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



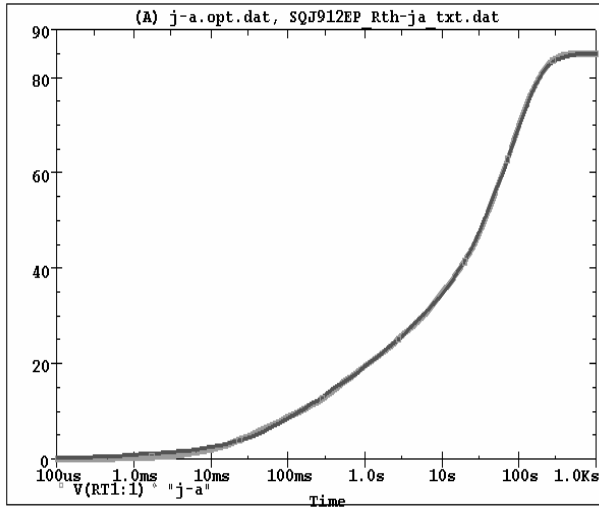
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	4.3175	664.9114m	N/A
RF2	15.1877	1.0888	N/A
RF3	18.6168	953.2120m	N/A
RF4	46.8780	393.0766m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	2.2615m	980.6481u	N/A
CF2	17.9729m	2.9656m	N/A
CF3	324.1408m	2.4017m	N/A
CF4	1.3016	2.2344m	N/A

Note

N/A indicates not applicable

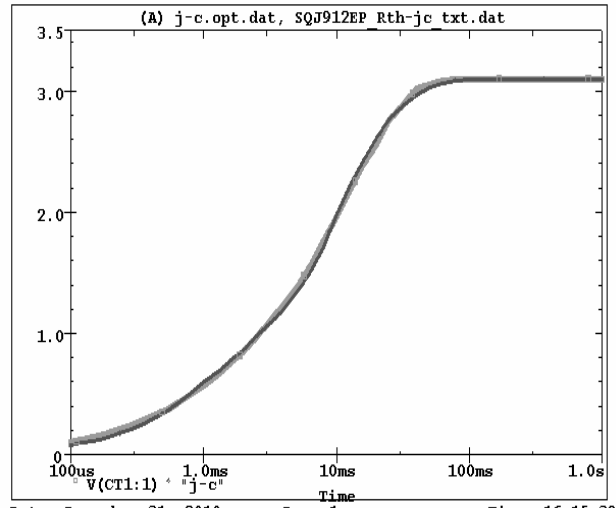


SQJ912EP Tank j-a Temperature: 27.0



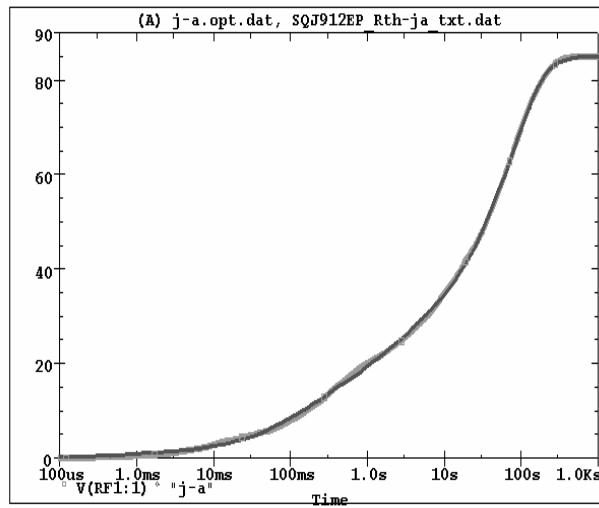
Date: December 31, 2010 Page 1 Time: 15:47:53

SQJ912EP Tank j-c Temperature: 27.0



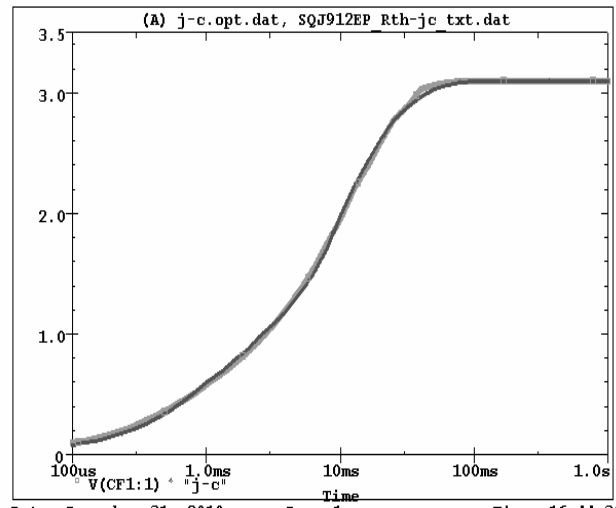
Date: December 31, 2010 Page 1 Time: 16:15:39

SQJ912EP Filter j-a Temperature: 27.0



Date: December 31, 2010 Page 1 Time: 16:25:37

SQJ912EP Filter j-c Temperature: 27.0



Date: December 31, 2010 Page 1 Time: 16:44:30