

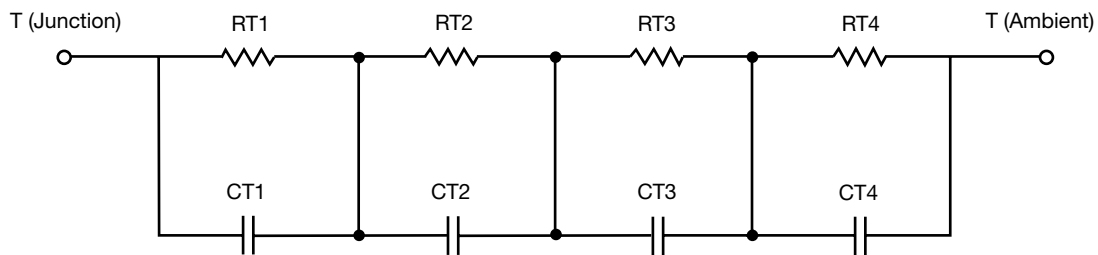
R-C Thermal Model Parameters

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



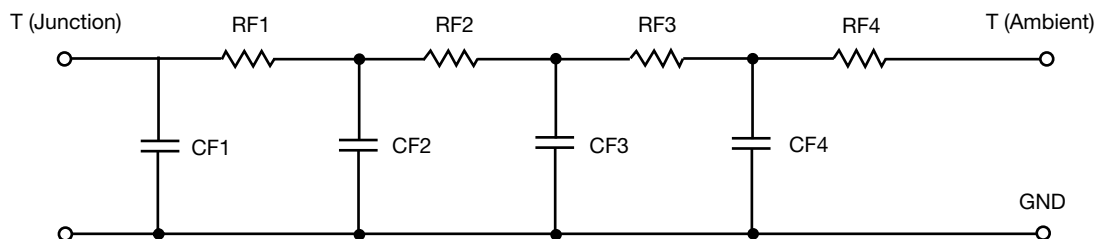
R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	67.8859	N/A	24.8311
RT2	65.1234	N/A	15.5040
RT3	15.9311	N/A	25.5188
RT4	26.0596	N/A	9.1461
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	3.7749m	N/A	1.3670m
CT2	1.4345	N/A	968.9665u
CT3	727.3282u	N/A	6.0857m
CT4	114.2655m	N/A	65.7560u

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



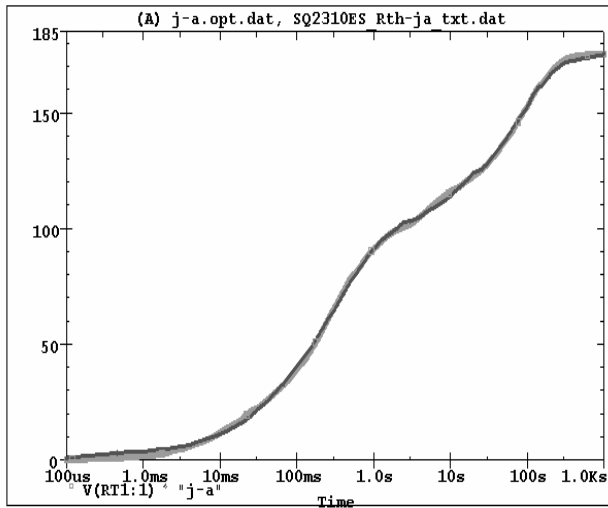
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	21.8747	N/A	12.8082
RF2	65.7784	N/A	40.9534
RF3	25.2878	N/A	16.1414
RF4	62.0591	N/A	5.0970
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	596.2561u	N/A	69.2488u
CF2	3.1910m	N/A	502.3084u
CF3	101.1343m	N/A	4.8678m
CF4	1.3668	N/A	22.0307m

Note

N/A indicates not applicable

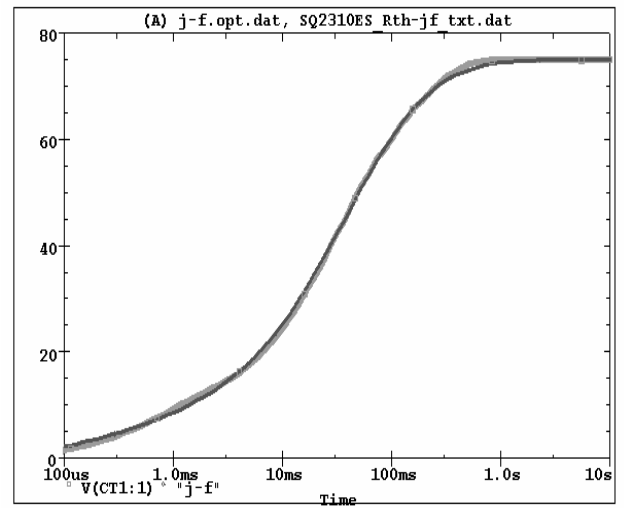


SQ2310ES Tank j-a Temperature: 27.0



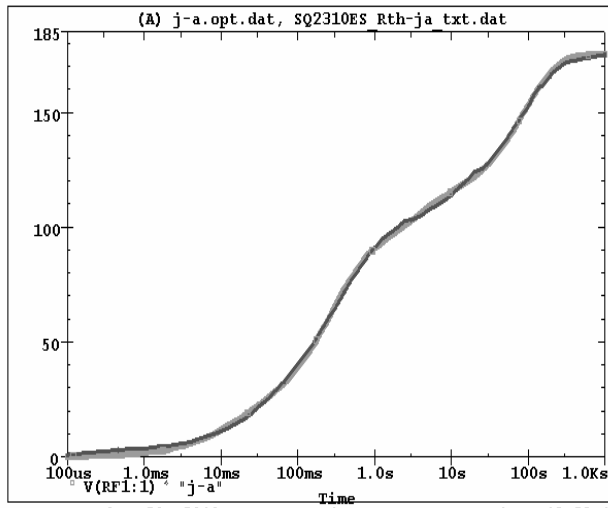
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SQ2310ES Tank j-f Temperature: 27.0



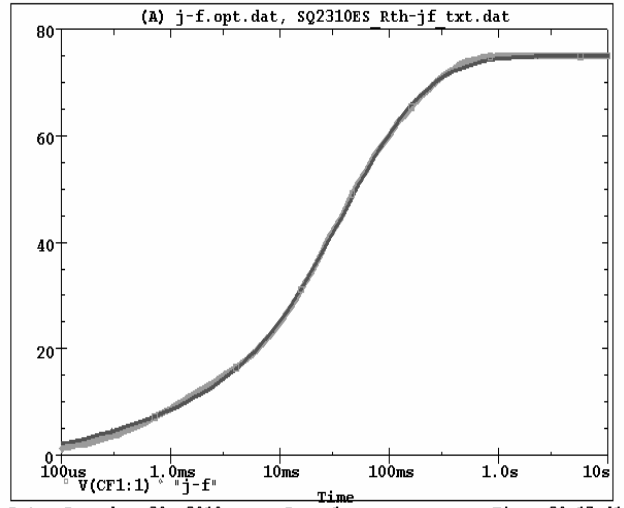
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SQ2310ES Filter j-a Temperature: 27.0



Date: December 30, 2010 Page 1 Time: 19:39:19

SQ2310ES Filter j-f Temperature: 27.0



Date: December 30, 2010 Page 1 Time: 20:17:41