

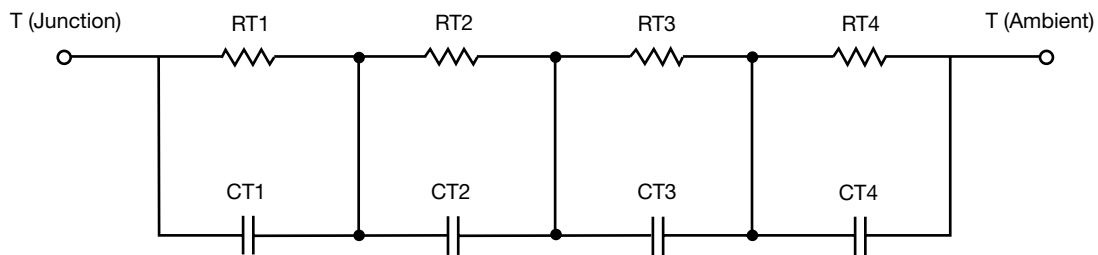
R-C Thermal Model Parameters

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



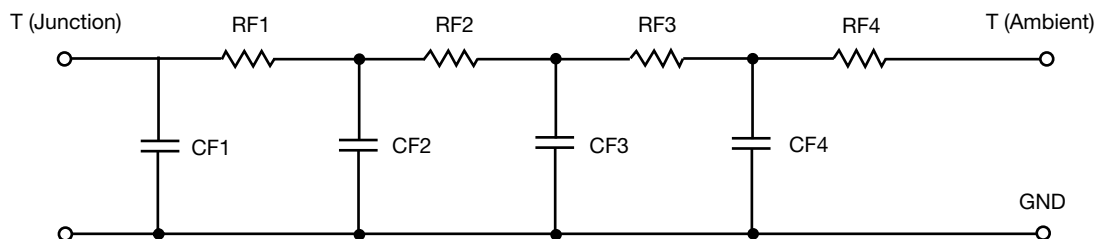
R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	57.6826	N/A	13.9955
RT2	23.0190	N/A	16.8265
RT3	32.7919	N/A	6.8059
RT4	11.5065	N/A	7.3721
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.6251	N/A	2.1832m
CT2	63.4887m	N/A	3.2902m
CT3	2.9640m	N/A	178.1911u
CT4	315.4247u	N/A	232.1656m

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

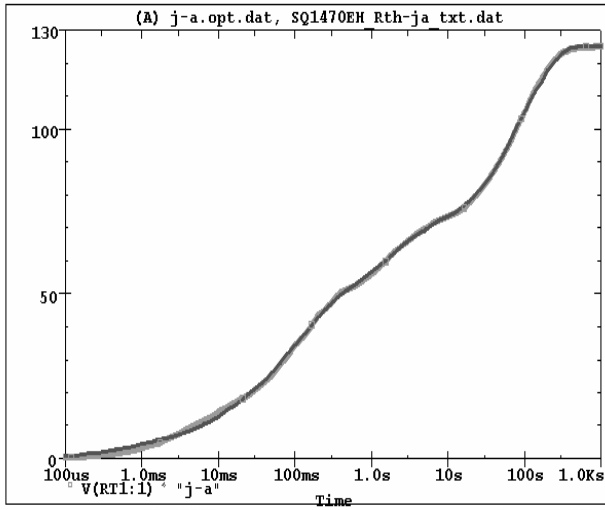


R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	14.6493	N/A	8.8969
RF2	32.1472	N/A	29.1359
RF3	22.5203	N/A	2.2411
RF4	55.6832	N/A	4.7261
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	310.2693u	N/A	159.8448u
CF2	2.6509m	N/A	1.2954m
CF3	60.2692m	N/A	244.9238m
CF4	1.6124	N/A	571.1669u

Note

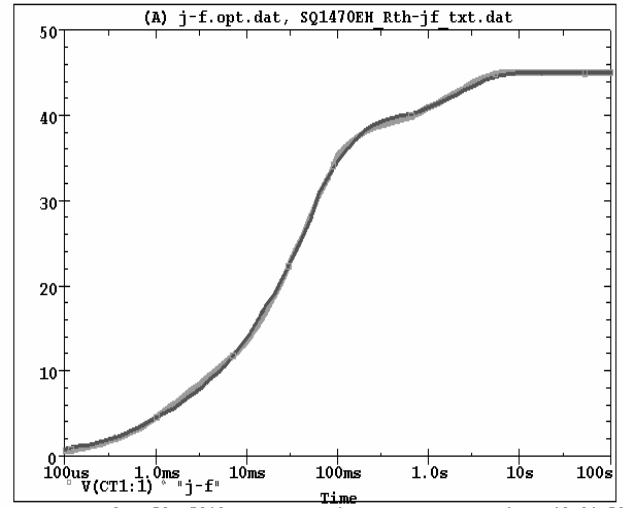
N/A indicates not applicable

SQ1470EH Tank j-a Temperature: 27.0



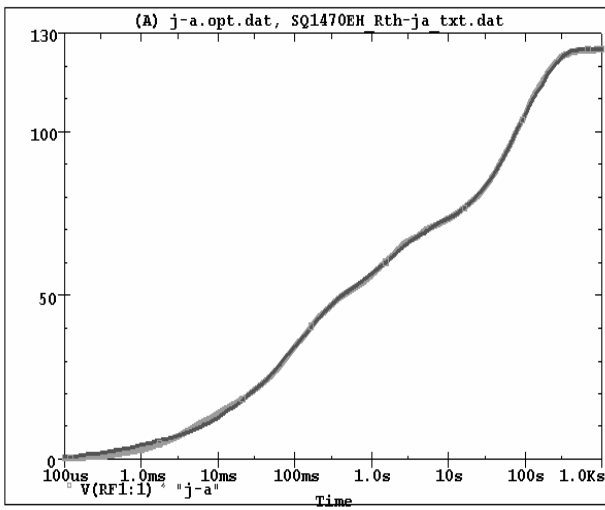
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SQ1470EH Tank j-f Temperature: 27.0



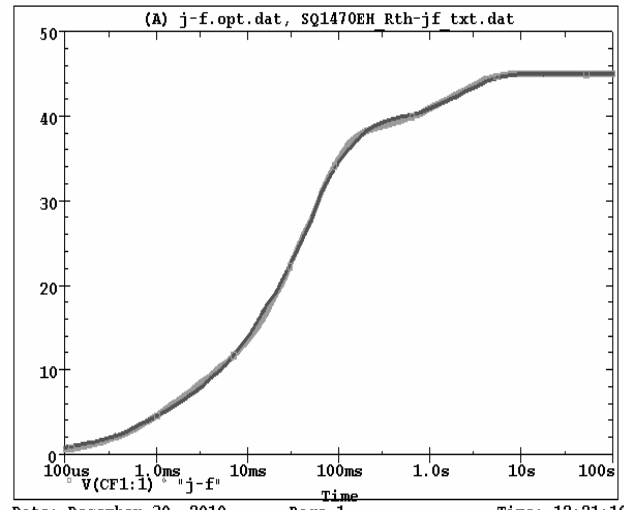
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SQ1470EH Filter j-a Temperature: 27.0



Date: December 30, 2010 Page 1 Time: 10:29:26

SQ1470EH Filter j-c Temperature: 27.0



Date: December 30, 2010 Page 1 Time: 12:21:10