

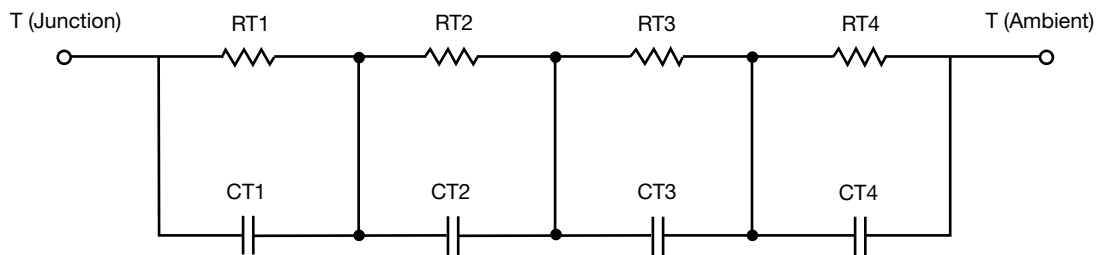
R-C Thermal Model Parameters

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



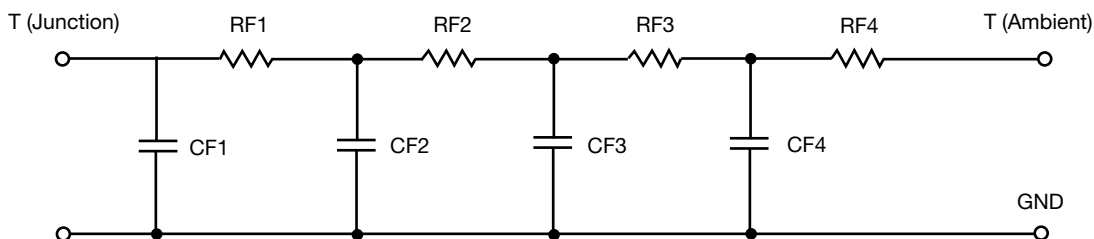
R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	30.0045	n/a	7.4758
RT2	3.4905	n/a	7.0993
RT3	24.7719	n/a	8.5237
RT4	33.7331	n/a	1.9012
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	390.4715m	n/a	294.2964m
CT2	302.3161u	n/a	4.3110m
CT3	14.6324m	n/a	23.5767m
CT4	5.8174	n/a	292.4479u

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



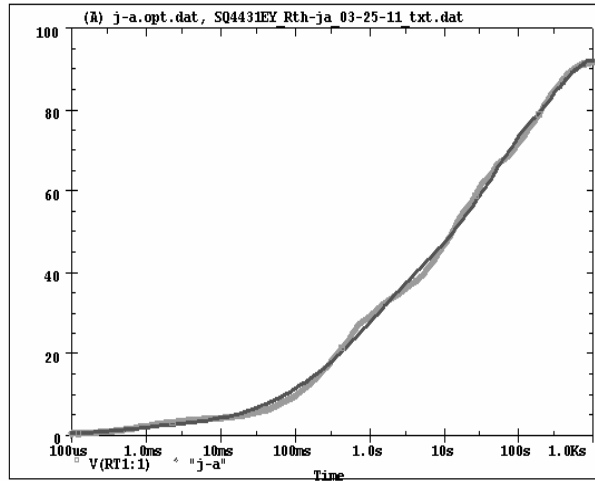
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	3.2450	n/a	2.5157
RF2	26.0110	n/a	9.7493
RF3	28.3114	n/a	7.2702
RF4	34.4326	n/a	5.4648
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	244.4868u	n/a	301.0473u
CF2	12.8049m	n/a	3.7714m
CF3	292.9982m	n/a	28.3826m
CF4	4.3730	n/a	417.1414m

Note

- n/a indicates not applicable

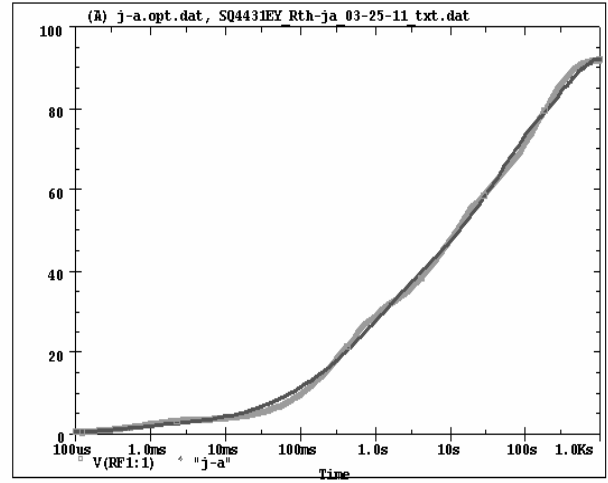


SQ4431EY Tank j-a Temperature:27.0



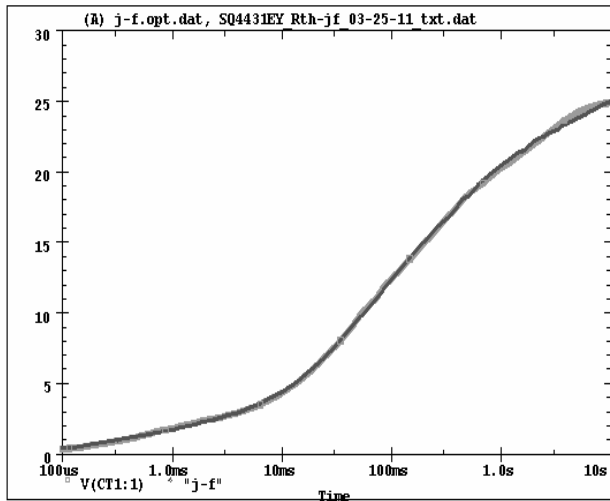
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SQ4431EY Filter j-a Temperature:27.0



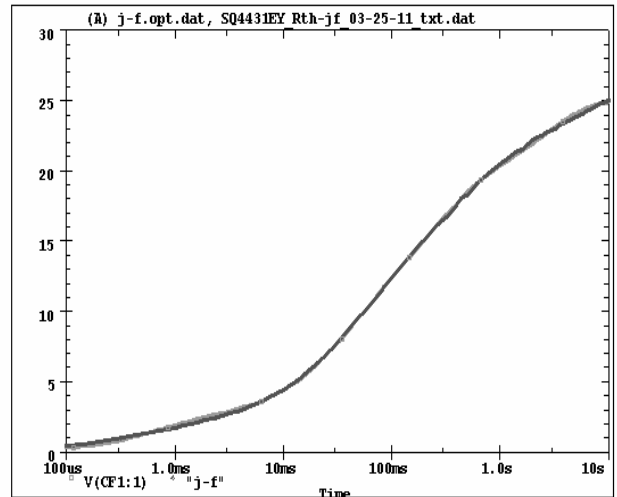
Date: March 29, 2011 Page 1 Time: 10:15:43

SQ4431EY Tank j-f Temperature:27.0



Date: March 26, 2011 Page 1 Time: 18:22:47

SQ4431EY Filter j-f Temperature:27.0



Date: March 26, 2011 Page 1 Time: 20:39:07