



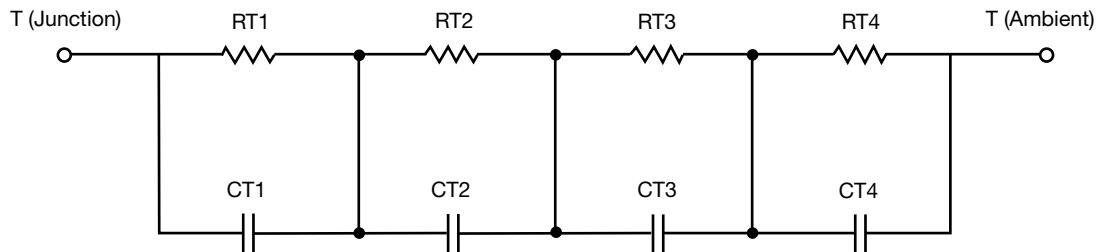
R-C Thermal Model Parameters

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	35.7642	213.9067m	N/A
RT2	7.7301	449.6807m	N/A
RT3	5.2949	246.2118m	N/A
RT4	1.2108	190.2008m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.1093	4.0550m	N/A
CT2	333.0596m	78.9844m	N/A
CT3	34.2985m	297.0685m	N/A
CT4	1.6098m	341.8020m	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



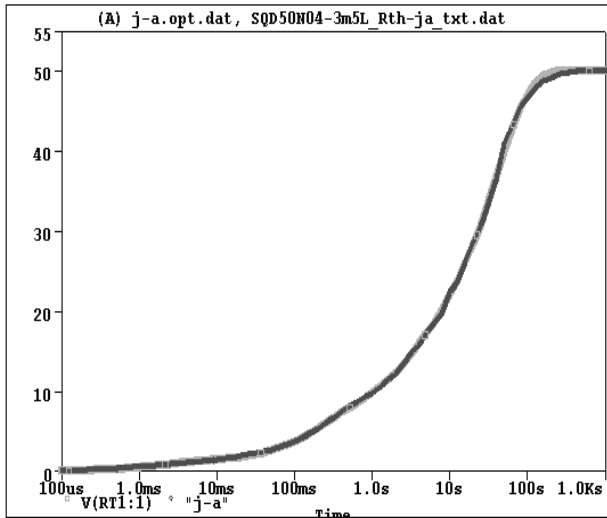
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	1.2824	260.8548m	N/A
RF2	7.0248	702.2532m	N/A
RF3	12.4517	109.0774m	N/A
RF4	29.2411	27.8146m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.4705m	4.0642m	N/A
CF2	29.3504m	55.2295m	N/A
CF3	286.9490m	68.0395m	N/A
CF4	1.0095	83.7224m	N/A

Note

- n/a indicates not applicable

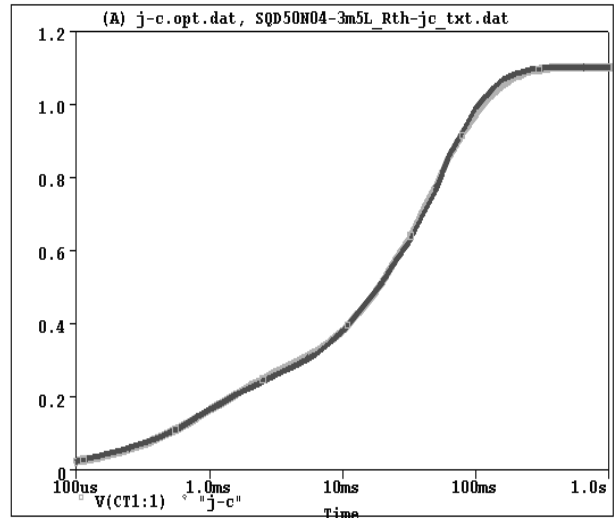


SQD50N04-3m5L Tank j-a Temperature: 27.0



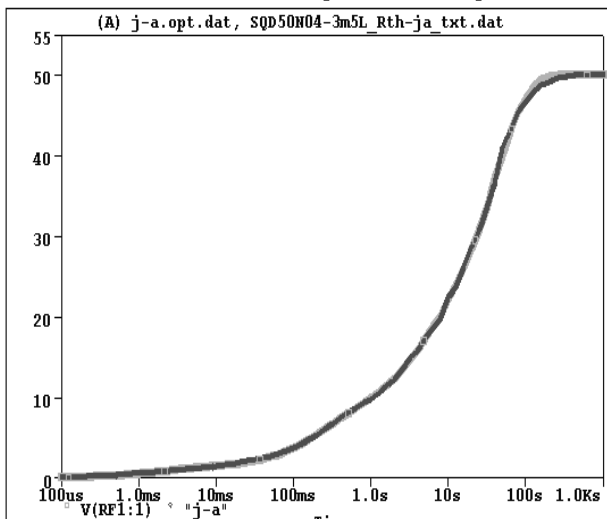
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SQD50N04-3m5L Tank j-c Temperature: 27.0



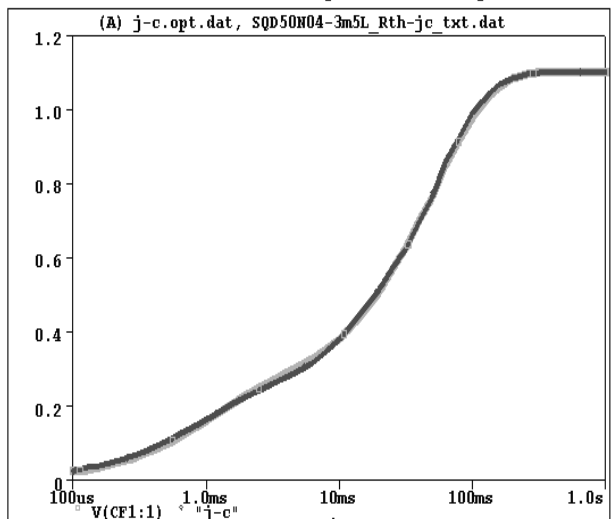
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SQD50N04-3m5L Filter j-a Temperature: 27.0



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SQD50N04-3m5L Filter j-c Temperature: 27.0



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