



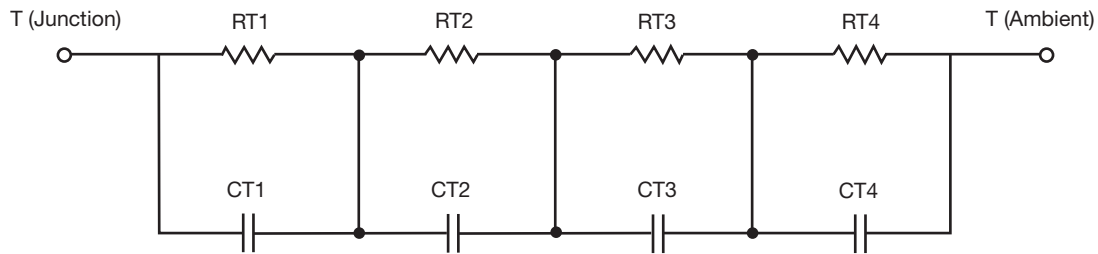
R-C Thermal Model Parameters

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 PSpice, 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 PSpice 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 PSpice Platform".

R-C THERMAL MODEL FOR TANK CONFIGURATION



R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	5.0048	2.4802	n/a
RT2	55.9050	1.5543	n/a
RT3	9.6645	1.0284	n/a
RT4	14.4257	437.1304m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	963.2070u	591.7742u	n/a
CT2	1.3351	6.2261m	n/a
CT3	16.7655m	65.5235m	n/a
CT4	191.9248m	1.4155	n/a

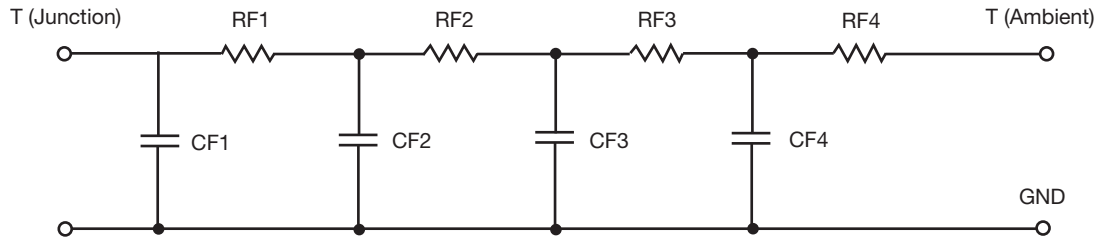
Note

- 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



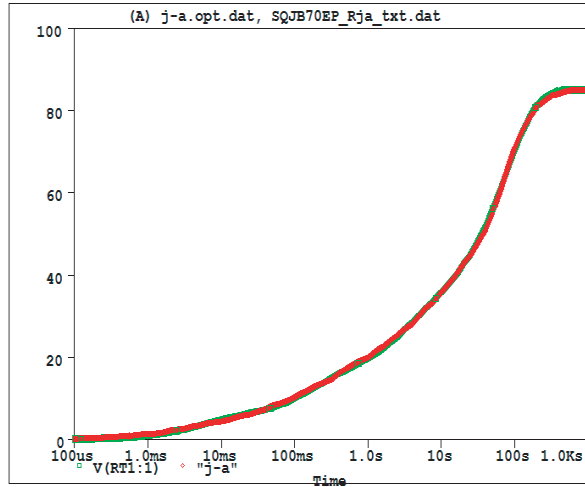
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	3.9429	2.2903	n/a
RF2	10.9272	1.6006	n/a
RF3	17.6711	977.3862m	n/a
RF4	52.4588	631.7140m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	611.9812u	481.8238u	n/a
CF2	8.8253m	2.0362m	n/a
CF3	135.8399m	29.6475m	n/a
CF4	1.2717	559.2166m	n/a

Note

- n/a indicates not applicable

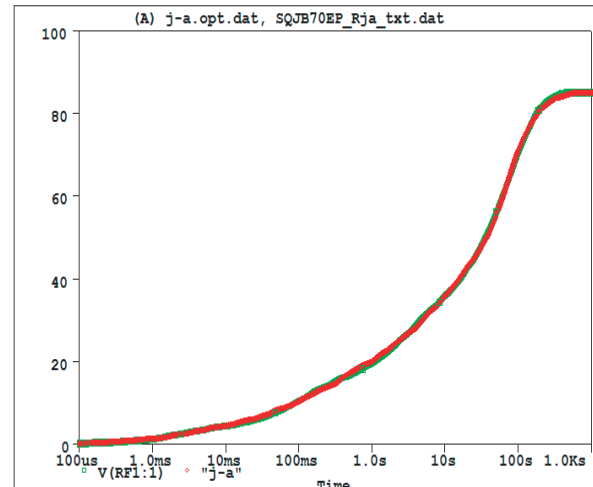


SQJB70EP Tank j-a Temperature 27.0



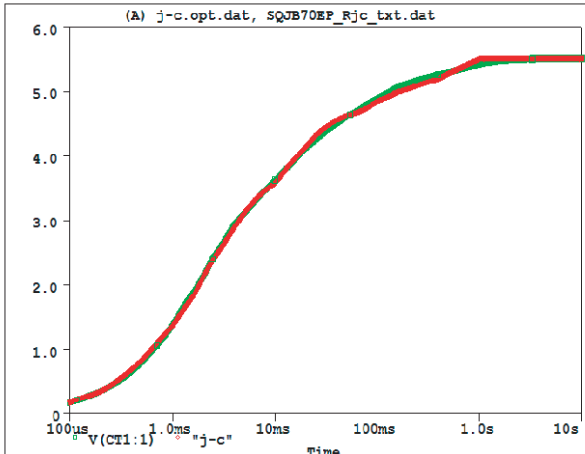
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SQJB70EP Filter j-a Temperature 27.0



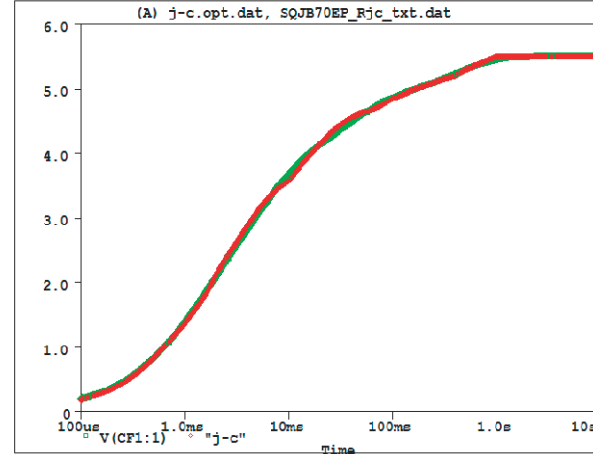
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SQJB70EP Tank j-c Temperature 27.0



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SQJB70EP Filter j-c Temperature 27.0



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