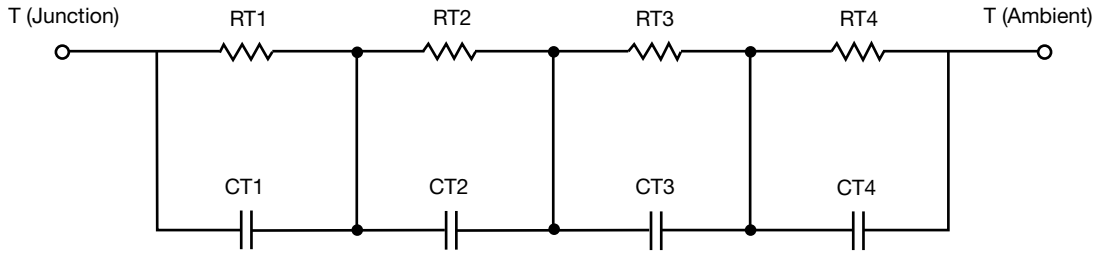
R-C Thermal Model Parameters

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	n/a	101.3317m	n/a
RT2	n/a	160.9991m	n/a
RT3	n/a	169.7571m	n/a
RT4	n/a	67.9121m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	**Ambient**	**Case**	**Foot**
CT1	n/a	823.3002m	n/a
CT2	n/a	514.0748m	n/a
CT3	n/a	29.8385m	n/a
CT4	n/a	11.1674m	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.

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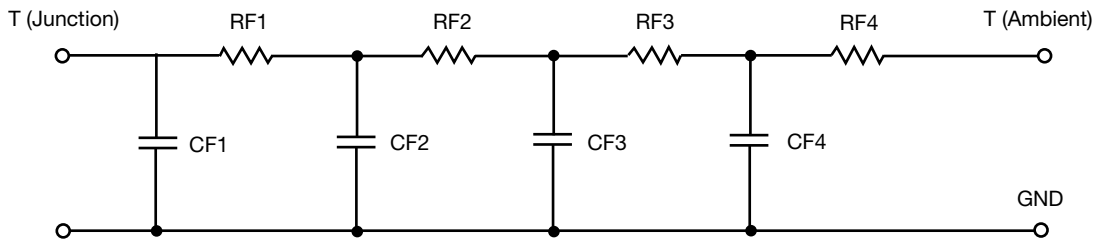
R-C THERMAL MODEL FOR FILTER CONFIGURATION



R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	**Ambient**	**Case**	**Foot**
RF1	n/a	129.7648m	n/a
RF2	n/a	138.0088m	n/a
RF3	n/a	90.4242m	n/a
RF4	n/a	141.8022m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	**Ambient**	**Case**	**Foot**
CF1	n/a	8.2104m	n/a
CF2	n/a	25.5542m	n/a
CF3	n/a	318.2439m	n/a
CF4	n/a	1.0813m	n/a

Note

- n/a indicates not applicable

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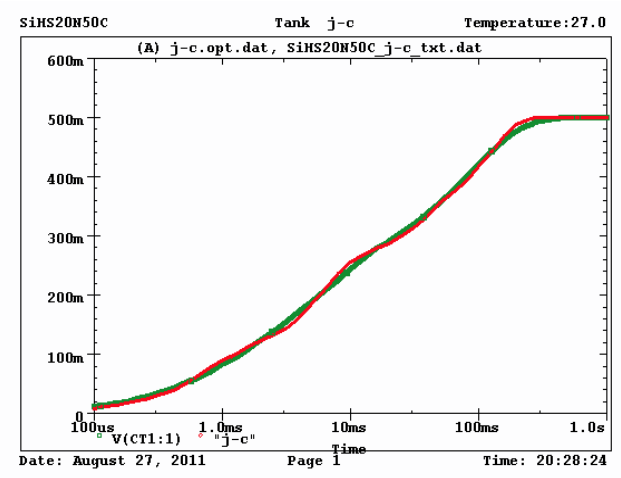

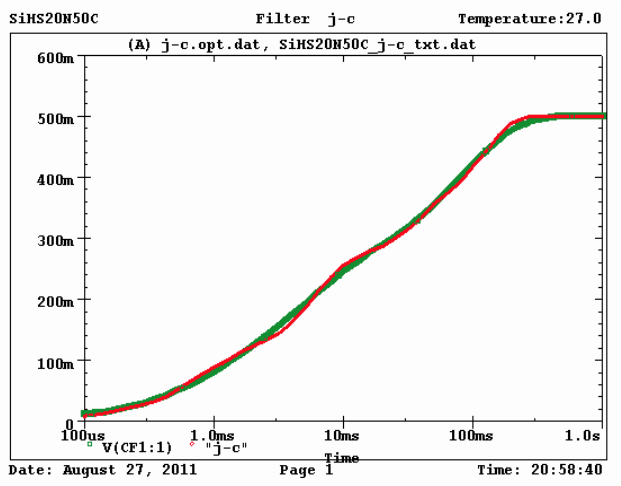

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