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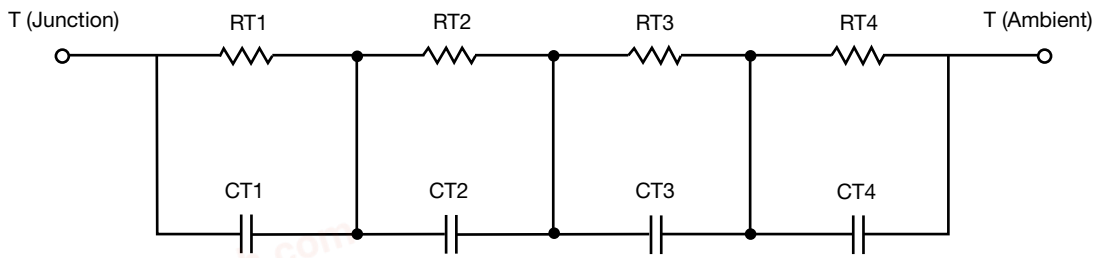
R-C Thermal Model Parameters

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	3.0036	449.3000m	n/a
RT2	60.8751	1.2014	n/a
RT3	8.9189	1.3156	n/a
RT4	12.2024	1.3337	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	**Ambient**	**Case**	**Foot**
CT1	1.4141m	11.0313	n/a
CT2	999.7067m	3.2596m	n/a
CT3	19.1909m	23.3328m	n/a
CT4	142.6652m	851.7033u	n/a

Note

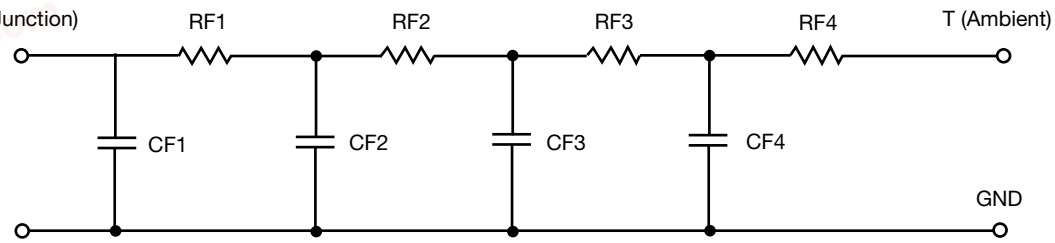
- n/a indicates not applicable

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



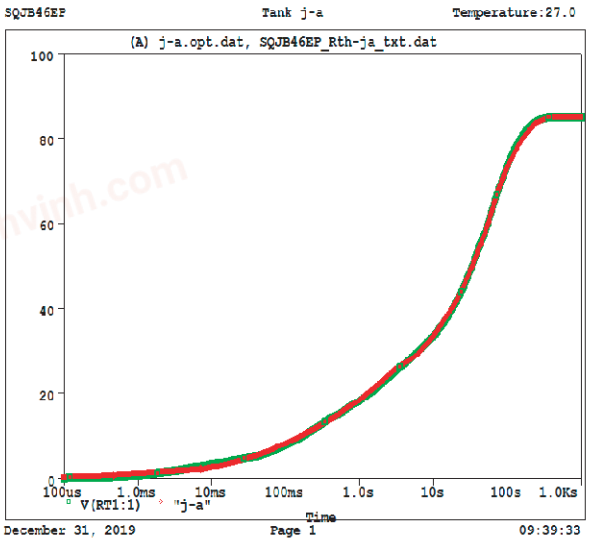
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	**Ambient**	**Case**	**Foot**
RF1	1.8215	1.1991	n/a
RF2	12.0638	1.6152	n/a
RF3	16.1740	1.0753	n/a
RF4	54.9407	410.4000m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	**Ambient**	**Case**	**Foot**
CF1	428.6546u	558.4070u	n/a
CF2	10.1605m	992.7170u	n/a
CF3	141.5644m	32.1229m	n/a
CF4	996.6966m	15.9984	n/a

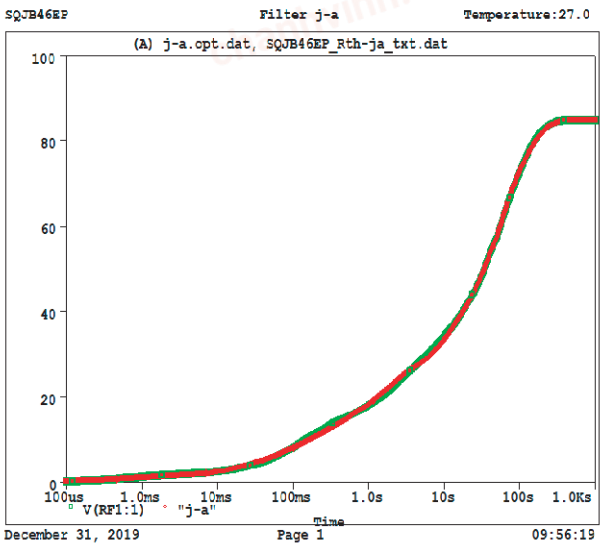
Note

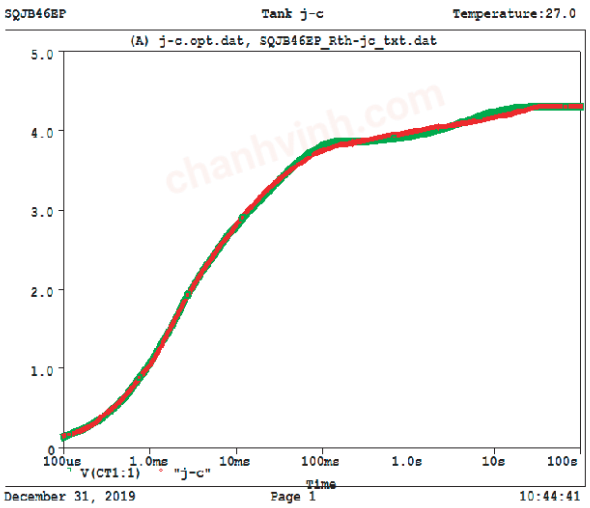
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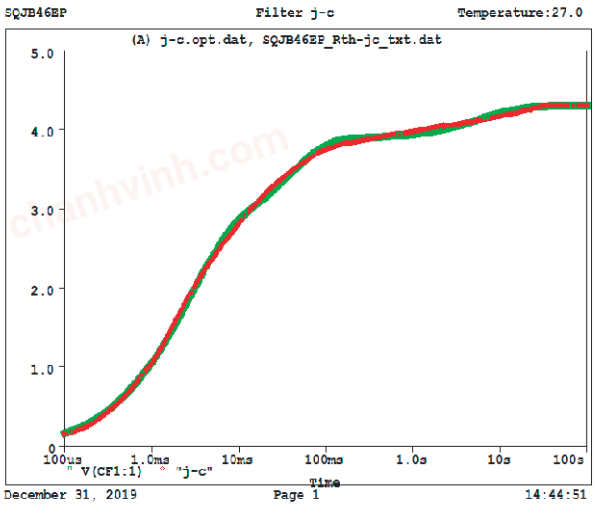
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