

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	330.5306m	N/A
RT2	N/A	301.1065m	N/A
RT3	N/A	432.0500m	N/A
RT4	N/A	636.3129m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	N/A	65.9304m	N/A
CT2	N/A	3.1082m	N/A
CT3	N/A	50.3095m	N/A
CT4	N/A	287.0807m	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

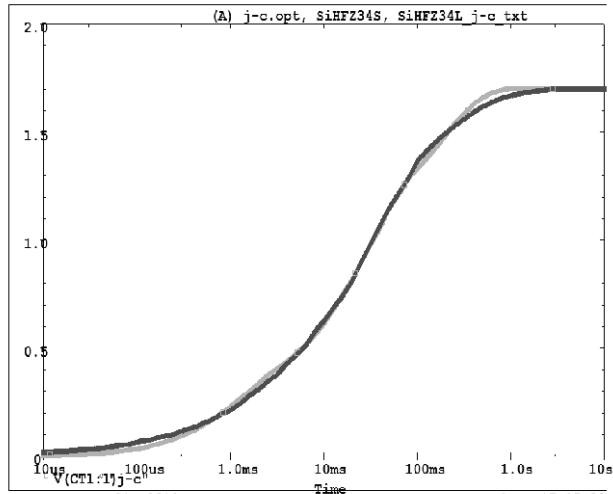
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	N/A	210.4962m	N/A
RF2	N/A	584.9514m	N/A
RF3	N/A	422.4372m	N/A
RF4	N/A	482.1122m	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	N/A	1.6484m	N/A
CF2	N/A	12.8579m	N/A
CF3	N/A	30.7312m	N/A
CF4	N/A	329.2343m	N/A

Note

N/A indicates not applicable

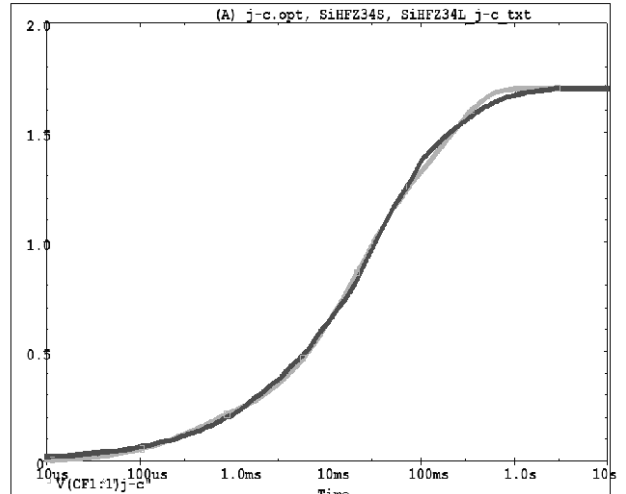


SiHFZ34S, SiHFZ34L Tank j-c Temperature: 27.0



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SiHFZ34S, SiHFZ34L Filter j-c Temperature: 27.0



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