



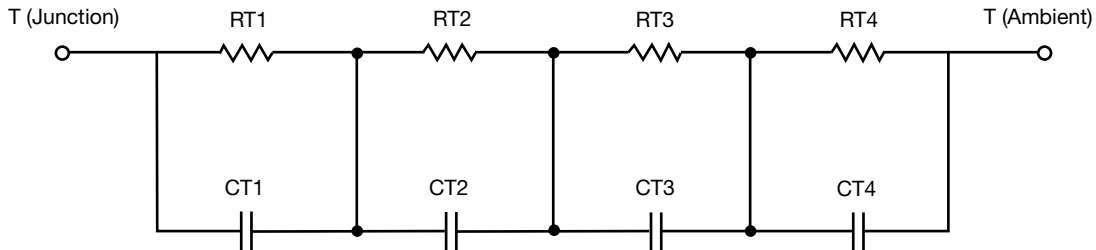
R-C Thermal Model Parameters

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	3.3803	151.0088m	N/A
RT2	14.6913	14.0912m	N/A
RT3	14.2444	1.3951	N/A
RT4	48.6840	4.7398	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	579.9833u	2.9703u	N/A
CT2	145.8308m	1.3061	N/A
CT3	11.2822m	481.8006u	N/A
CT4	1.5025	2.7466m	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	3.0814	1.9992	N/A
RF2	14.8852	1.5404	N/A
RF3	16.4064	1.7055	N/A
RF4	46.6270	1.0549	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	423.9543u	349.9990u	N/A
CF2	8.1020m	2.0387m	N/A
CF3	99.9178m	1.0856m	N/A
CF4	1.4244	3.8048m	N/A

Note

- n/a indicates not applicable

