



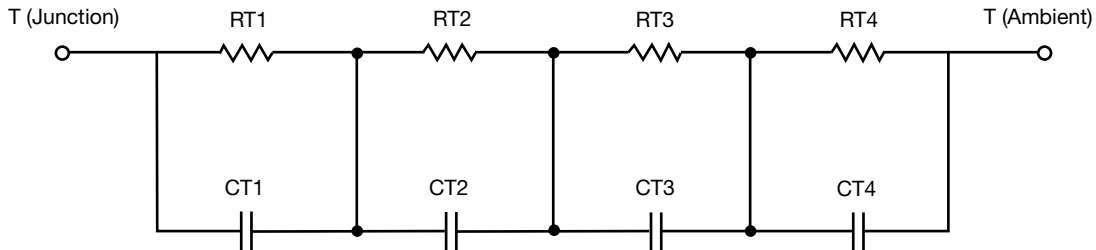
R-C Thermal Model Parameters

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	51.1038	N/A	11.2031
RT2	12.4393	N/A	5.7799
RT3	35.1334	N/A	2.3013
RT4	11.0877	N/A	10.7378
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.1913	N/A	6.1337m
CT2	64.3179m	N/A	8.2631m
CT3	10.7128m	N/A	399.0140u
CT4	1.8910m	N/A	27.5675m

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	16.1700	N/A	1.9809
RF2	31.6366	N/A	19.4489
RF3	12.3669	N/A	669.1184m
RF4	49.7153	N/A	7.9190
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	1.6429m	N/A	201.4286u
CF2	7.6310m	N/A	2.6800m
CF3	20.9680m	N/A	10.9766m
CF4	1.1973	N/A	21.0320m

Note

- n/a indicates not applicable

