



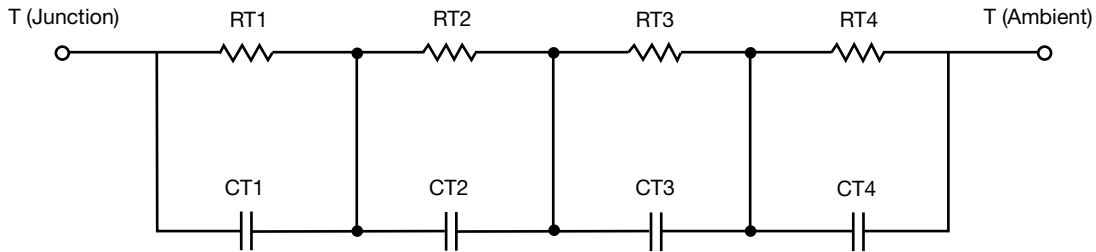
R-C Thermal Model Parameters

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-Full Copper	Ambient-Minimum Copper	Foot
RT1	28.1928	53.6215	N/A
RT2	33.6684	38.7323	N/A
RT3	9.0454	38.4203	N/A
RT4	28.7674	58.1391	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient-Full Copper	Ambient-Minimum Copper	Foot
CT1	1.2011	295.8204m	N/A
CT2	1.6331m	1.6844m	N/A
CT3	173.3561m	1.7494m	N/A
CT4	251.9474u	12.1175m	N/A

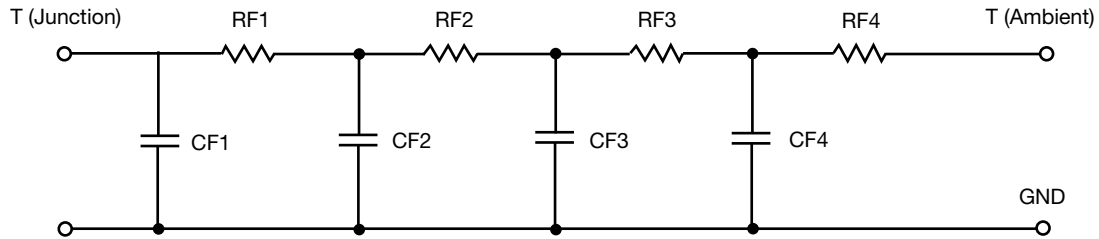
Note

- 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-Full Copper	Ambient-Minimum Copper	Foot
RF1	23.7693	31.7766	N/A
RF2	31.5150	50.4092	N/A
RF3	13.8615	53.8745	N/A
RF4	30.2343	52.4260	N/A
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient-Full Copper	Ambient-Minimum Copper	Foot
CF1	176.4096u	457.0551u	N/A
CF2	535.9489u	1.1053m	N/A
CF3	17.1937m	5.9346m	N/A
CF4	909.3395m	269.5332m	N/A

Note

- n/a indicates not applicable

