



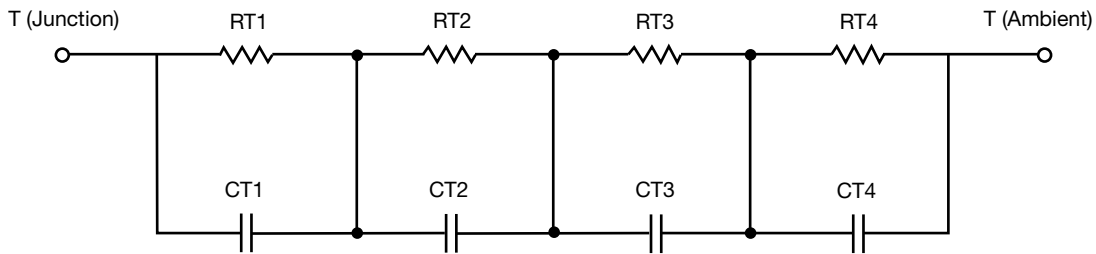
R-C Thermal Model Parameters

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	3.1368	156.9404m	n/a
RT2	19.0395	184.8053m	n/a
RT3	5.4804	42.6882m	n/a
RT4	24.3432	334.4434m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	7.1861m	9.8735m	n/a
CT2	1.1396	482.6050u	n/a
CT3	144.4771m	49.1917u	n/a
CT4	5.5872	1.4915m	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	3.5778	42.2297m	n/a
RF2	6.7873	207.7680m	n/a
RF3	25.2079	234.5788m	n/a
RF4	16.4272	233.3546m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	6.3208m	73.7478u	n/a
CF2	126.6530m	213.0669u	n/a
CF3	884.2609m	436.1678u	n/a
CF4	6.4659	2.9419m	n/a

Note

- n/a indicates not applicable

