

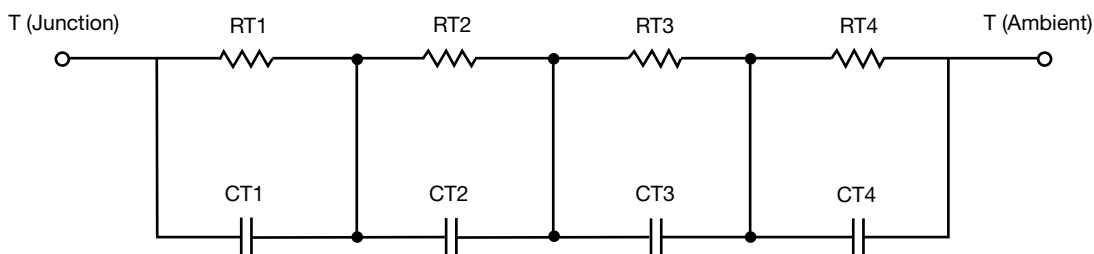
R-C Thermal Model Parameters

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	4.8227	39.2467m	n/a
RT2	17.3635	244.2851m	n/a
RT3	14.5747	1.2165	n/a
RT4	33.2391	499.9682m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	4.8548m	7.0414m	n/a
CT2	2.2610	5.8925m	n/a
CT3	76.9982m	43.7673m	n/a
CT4	2.1843	261.0798m	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	4.8546	262.6105m	n/a
RF2	13.7213	238.7629m	n/a
RF3	16.2176	328.1266m	n/a
RF4	35.2065	1.1705	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	4.7840m	2.8599m	n/a
CF2	55.2892m	20.1858m	n/a
CF3	565.0966m	2.7173m	n/a
CF4	1.0566	30.8674m	n/a

Note

- n/a indicates not applicable

