



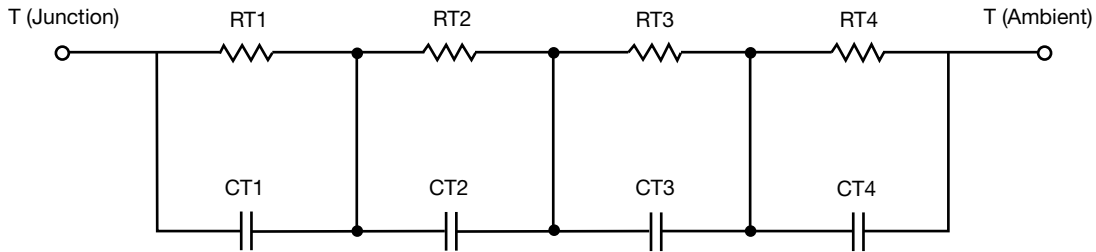
R-C Thermal Model Parameters

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	21.3018	503.1352m	n/a
RT2	4.1256	426.2107m	n/a
RT3	2.2670	1.2662	n/a
RT4	32.3057	1.0044	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	1.5261	118.7972u	n/a
CT2	234.1448m	4.7861m	n/a
CT3	310.2850u	45.7405m	n/a
CT4	5.1891	996.0619m	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	2.5082	670.4754m	n/a
RF2	5.1169	947.3696m	n/a
RF3	28.2112	976.5170m	n/a
RF4	24.1636	605.6379m	n/a
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	464.7070u	119.4143u	n/a
CF2	213.1386m	15.9092m	n/a
CF3	873.1736m	119.5825m	n/a
CF4	4.9361	2.2746	n/a

Note

- n/a indicates not applicable

