

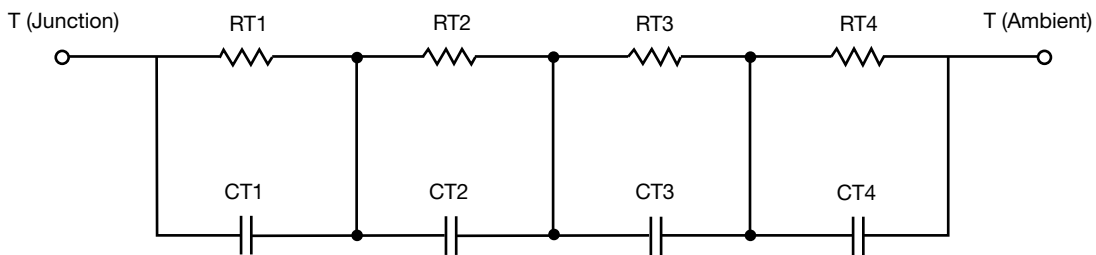
R-C Thermal Model Parameters

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

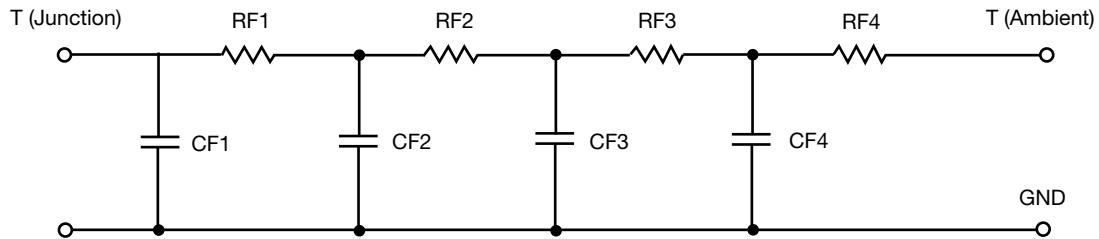


| R-C VALUES FOR TANK CONFIGURATION | | | |
|--|----------------|-------------|-------------|
| THERMAL RESISTANCE (°C/W) | | | |
| Junction to | Ambient | Case | Foot |
| RT1 | N/A | 285.8286m | N/A |
| RT2 | N/A | 86.0520m | N/A |
| RT3 | N/A | 104.6966m | N/A |
| RT4 | N/A | 24.1060m | N/A |
| THERMAL CAPACITANCE (Joules/°C) | | | |
| Junction to | Ambient | Case | Foot |
| CT1 | N/A | 153.6850m | N/A |
| CT2 | N/A | 93.2611m | N/A |
| CT3 | N/A | 58.4217m | N/A |
| CT4 | N/A | 59.5738m | 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 | N/A | 73.1689m | N/A |
| RF2 | N/A | 231.6786m | N/A |
| RF3 | N/A | 178.9213m | N/A |
| RF4 | N/A | 16.2111m | N/A |
| THERMAL CAPACITANCE (Joules/°C) | | | |
| Junction to | Ambient | Case | Foot |
| CF1 | N/A | 16.2758m | N/A |
| CF2 | N/A | 15.3247m | N/A |
| CF3 | N/A | 173.6782m | N/A |
| CF4 | N/A | 330.0315m | N/A |

Note

N/A indicates not applicable

