

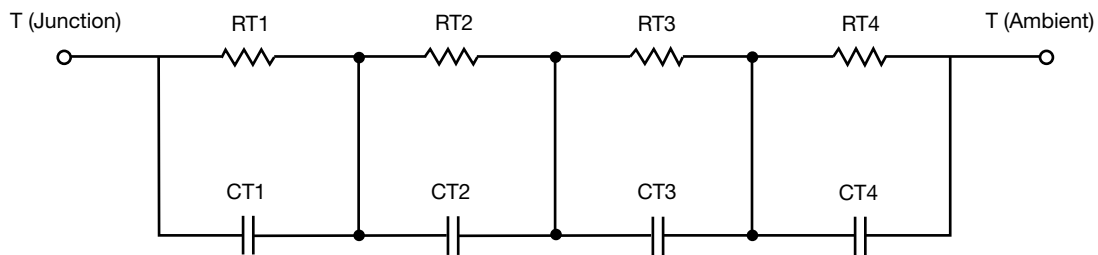
## R-C Thermal Model Parameters

### 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

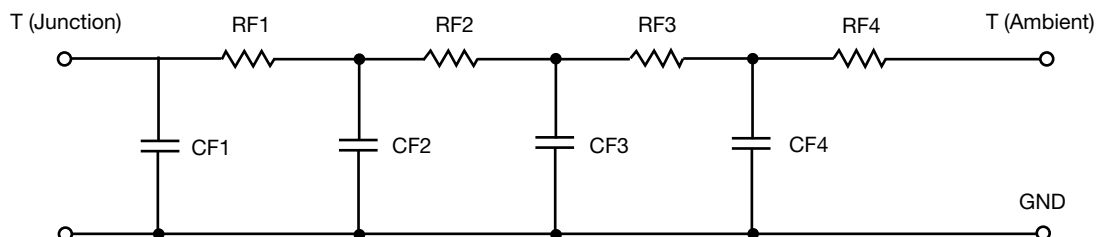


| R-C VALUES FOR TANK CONFIGURATION |         |           |      |
|-----------------------------------|---------|-----------|------|
| THERMAL RESISTANCE (°C/W)         |         |           |      |
| Junction to                       | Ambient | Case      | Foot |
| RT1                               | N/A     | 1.3804    | N/A  |
| RT2                               | N/A     | 149.8619m | N/A  |
| RT3                               | N/A     | 1.5401    | N/A  |
| RT4                               | N/A     | 493.0567m | N/A  |
| THERMAL CAPACITANCE (Joules/°C)   |         |           |      |
| Junction to                       | Ambient | Case      | Foot |
| CT1                               | N/A     | 70.3122m  | N/A  |
| CT2                               | N/A     | 1.8407m   | N/A  |
| CT3                               | N/A     | 655.5914m | N/A  |
| CT4                               | N/A     | 14.2486m  | 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     | 466.9236m | N/A  |
| RF2                             | N/A     | 1.1007    | N/A  |
| RF3                             | N/A     | 1.3041    | N/A  |
| RF4                             | N/A     | 731.4404m | N/A  |
| THERMAL CAPACITANCE (Joules/°C) |         |           |      |
| Junction to                     | Ambient | Case      | Foot |
| CF1                             | N/A     | 3.8066m   | N/A  |
| CF2                             | N/A     | 27.9430m  | N/A  |
| CF3                             | N/A     | 156.1445m | N/A  |
| CF4                             | N/A     | 1.9539    | N/A  |

**Note**

N/A indicates not applicable

