

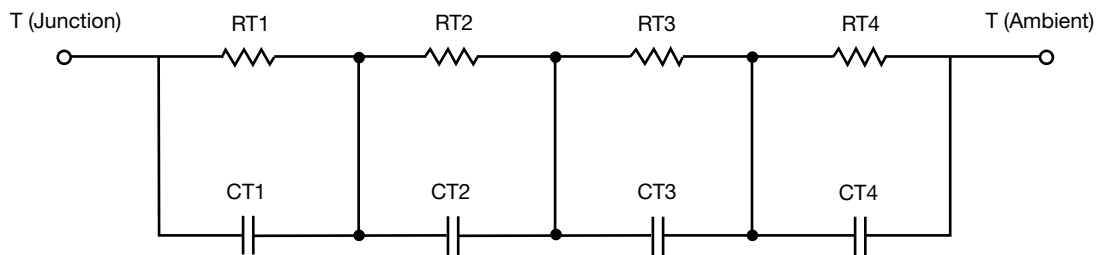
R-C Thermal Model Parameters

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



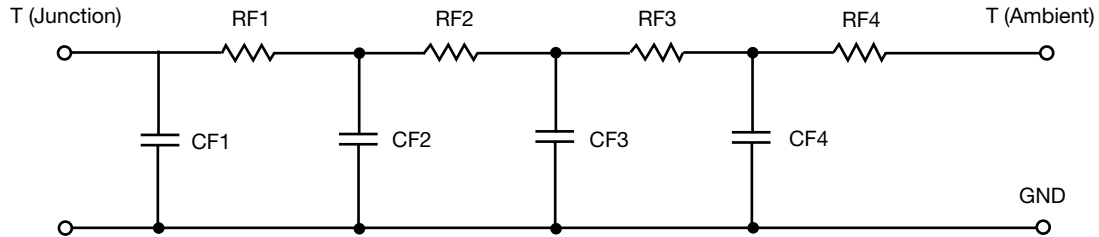
R-C VALUES FOR TANK CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RT1	7.6108	N/A	14.6840
RT2	33.1538	N/A	4.2594
RT3	22.6954	N/A	5.0904
RT4	45.8800	N/A	11.9642
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CT1	724.1507u	N/A	19.1009m
CT2	5.7594m	N/A	426.6145u
CT3	53.6520m	N/A	9.9348m
CT4	1.4195	N/A	5.0197m

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



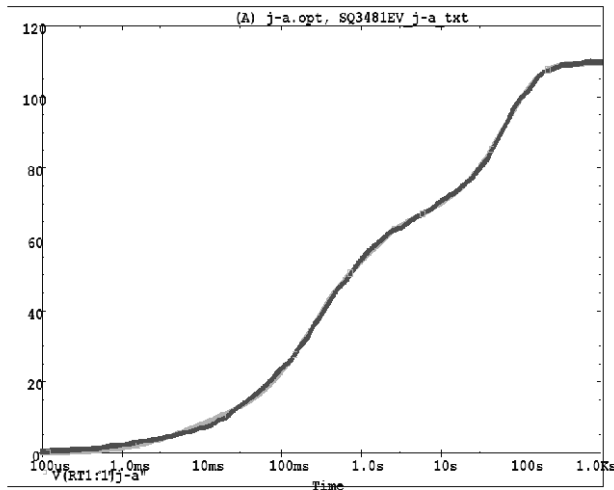
R-C VALUES FOR FILTER CONFIGURATION			
THERMAL RESISTANCE (°C/W)			
Junction to	Ambient	Case	Foot
RF1	9.9874	N/A	5.2490
RF2	31.0646	N/A	15.5878
RF3	23.2391	N/A	2.2890
RF4	45.0393	N/A	12.7956
THERMAL CAPACITANCE (Joules/°C)			
Junction to	Ambient	Case	Foot
CF1	697.2721u	N/A	384.5228u
CF2	4.1195m	N/A	2.1730m
CF3	28.7668m	N/A	382.6680u
CF4	1.3917	N/A	12.8886m

Note

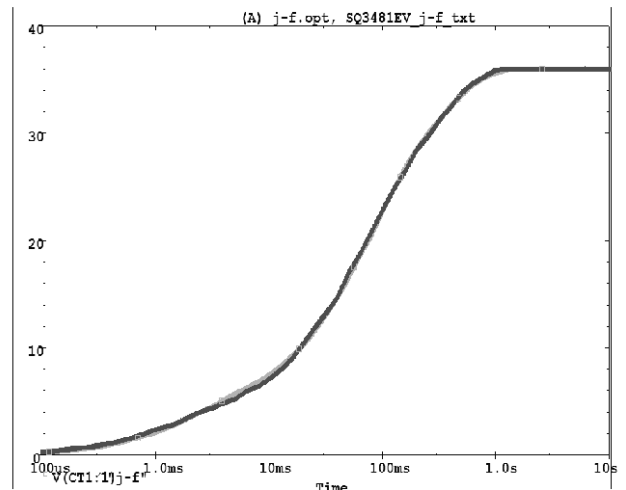
N/A indicates not applicable



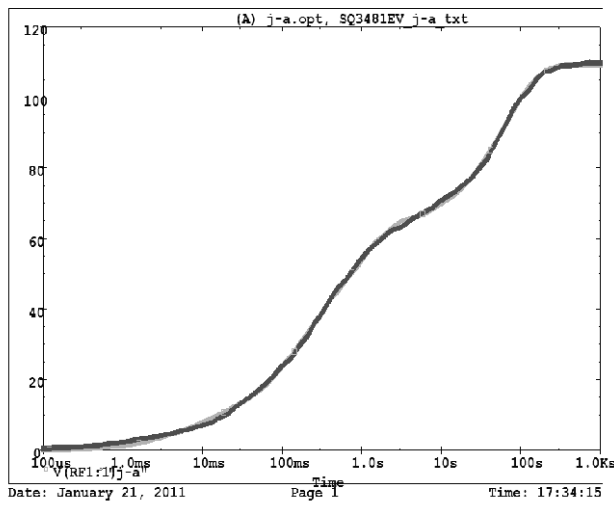
SQ3481EV Tank j-a Temperature: 27.0



SQ3481EV Tank j-f Temperature: 27.0



SQ3481EV Filter j-a Temperature: 27.0



SQ3481EV Filter j-f Temperature: 27.0

