Thermal Resistance

Symbol	Characterizes	Typ.	Max.	Units
$R_{\ A}$	Junction-to-Ambient		90	/W

Electrical Characterizes @T_A=25 unless otherwise specified

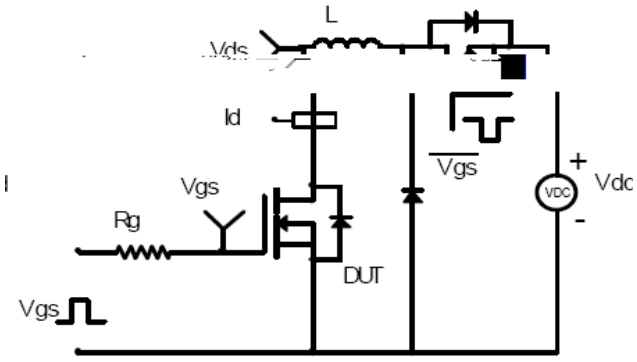
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	20			V	V_{GS} = 0V, I_D
$R_{DS(on)}$	Static Drain-to-Source on-resistance		18	22	m	V_{GS}=4.5V, I_D=6.5A
			24	30	m	V_{GS}=2.5V, I_D=5.5A
$V_{GS(th)}$	Gate threshold voltage	0.4		1	V	V_{DS} = V_{GS}, I_D
I_{DSS}	Drain-to-Source leakage current			1		V_{DS}=20V,V_{GS}=0V
I_{GSS}	Gate-to-Source forward leakage			±1	uA	V_{GS}=±4.5V,V_{DS}=0V
				±10		V_{GS}=±8V,V_{DS}=0V
Q_g	Total gate charge		10		nC	V_{DS}=10V
Q_{gs}	Gate-to-Source charge		2.3			I_D=6.5A
Q_{gd}	Gate-to-Drain("Miller") charge		3			V_{GS}=4.5V
$t_{d(on)}$	Turn-on delay time		6.5		ns	V_{DD}=10V
t_r	Rise time		13			I_D=1A
$t_{d(off)}$	Turn-Off delay time		50			V_{GS}=5V
t_f	Fall time		30			R_{GEN}
C_{iss}	Input capacitance		1160		pF	V_{GS} = 0V
C_{oss}	Output capacitance		200			V_{DS} = 10V
C_{rss}	Reverse transfer capacitance		140			1MHz

Source-Drain Ratings and Characteristics

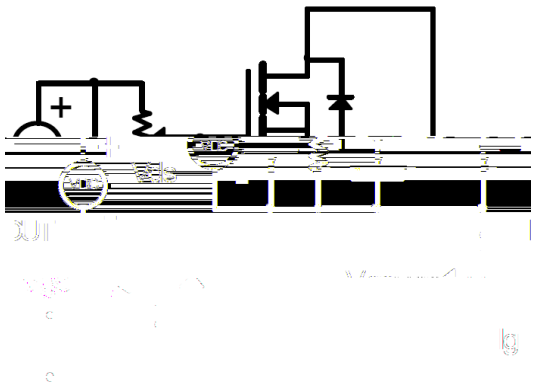
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)			6.5	A	MOSFET symbol

Test Circuits and Waveforms

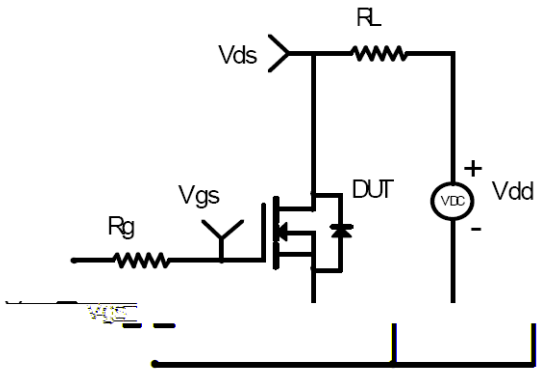
EAS Test Circuit:



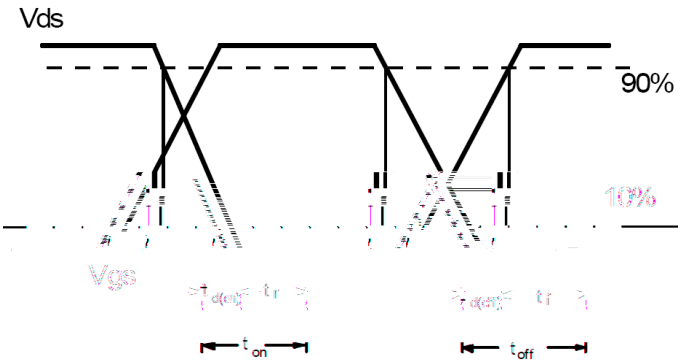
Gate Charge Test Circuit:



Switching Time Test Circuit:



Switching Waveforms:



Notes:

Calculated continuous current based on maximum allowable junction temperature.

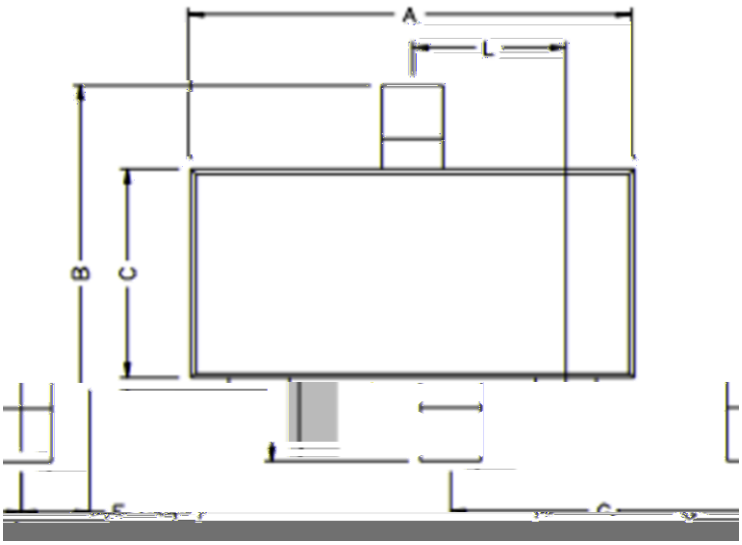
Repetitive rating; pulse width limited by max. junction temperature.

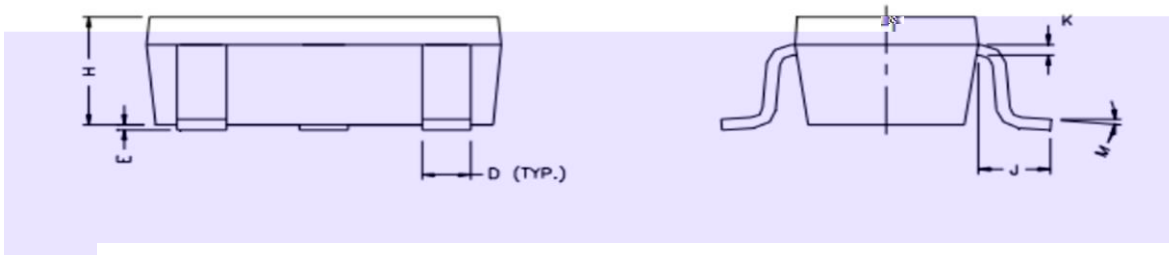
The power dissipation PD is based on max. junction temperature, using junction-to-case thermal resistance.

The value of $R_{\theta A}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with TA =25

Mechanical Data

SOT-23 Package Outline(Unit:mm)





REF.	Millimeter		REF.	Millimete	
	Min.	Max.		Min.	Max.
A	2.80	3.00	G	1.80	2.00
B	2.30	2.50	H	0.90	1.1
C	1.20	1.40	K	0.10	0.20
D	0.30	0.50	J	0.35	0.70
E	0	0.10	L	0.92	0.98
F	0.45	0.55	M	0°	10°

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