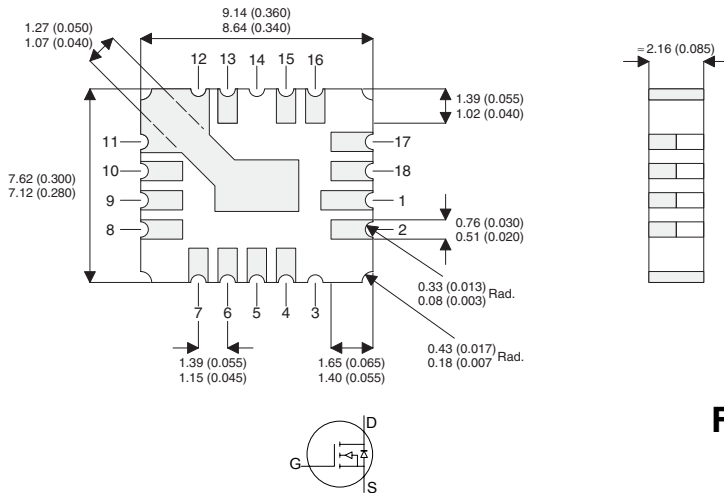


MECHANICAL DATA

Dimensions in mm (inches)



N-CHANNEL ENHANCEMENT MODE HIGH VOLTAGE POWER MOSFETS

BV_{DSS} 400V
 I_D 3.0A
 $R_{DS(on)}$ 1.0 Ω

FEATURES

- Dynamic dv/dt Rating
- Simple Drive requirements
- Ease of Paralleling
- Hermetic Ceramic Surface Mount Package

LCC4 CERAMIC SURFACE MOUNT PACKAGE

GATE PINS 4,5
 DRAIN PINS 1,2,15,16,17,18
 SOURCE PINS 6,7,8,9,10,11,12,13

ABSOLUTE MAXIMUM RATINGS $T_{CASE} = 25^\circ\text{C}$ unless otherwise stated

V_{DSS}	Drain - Source Voltage	400V
I_D	Drain Current	3A
	- Continuous ($V_{GS} = 10V, T_c = 25^\circ\text{C}$)	
	- Continuous ($V_{GS} = 10V, T_c = 100^\circ\text{C}$)	2A
I_{DM}	Drain Current	12A
	- Pulsed ²	
V_{GSS}	Gate - Source Voltage	$\pm 20V$
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^\circ\text{C}$	25W
	De-rate Linearly above 25°C	0.20W/ $^\circ\text{C}$
T_j, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150 $^\circ\text{C}$
R_{thj-mb}	Thermal Resistance Junction – Mounting Base	5.0 $^\circ\text{C}/\text{W}$
dv/dt	Peak Diode Recovery ³	4V/ns

NOTES: 1) Repetitive Rating: Pulse Width limited by maximum junction temperature.
 2) Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle, $\delta \leq 2\%$
 3) $T_j \leq 150^\circ\text{C}$, $V_{DD} \leq BV_{DSS}$, Suggested $R_G = 7.5$, $I_{SD} \leq 1.5A$, di/dt $\leq 50A/\mu\text{s}$

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

STATIC ELECTRICAL RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0V$ $I_D = 250\mu A$	400	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 320V$ $V_{GS} = 0V$	-	-	25	μA
		$T_C = 125^{\circ}C$	-	-	250	
I_{GSS}	Gate – Source Leakage Current	$V_{GS} = \pm 20V$ $V_{DS} = 0V$	-	-	± 100	nA
$V_{GS(TH)}$	Gate Threshold Voltage	$V_{DS} \geq V_{GS}$ $I_D = 250\mu A$	2.0	-	4.0	V
		$T_C = 125^{\circ}C$	1.0	-	-	
		$T_C = -55^{\circ}C$	-	-	5.0	
$R_{DS(ON)}$	Drain – Source On State Resistance ³	$V_{GS} = 10V$ $I_D = 2A$	-	-	1.0	Ω
		$T_C = 125^{\circ}C$	-	-	2.40	
		$V_{GS} = 10V$ $I_D = 3A$	-	-	1.15	
g_{FS}	Forward Transconductance ³	$V_{DS} \geq 15V$ $I_{DS} = 2A$	2	-	-	S

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{DS} = 25V$ $f = 1.0MHz$ $V_{GS} = 0V$	-	620	-	μF
C_{oss}	Output Capacitance		-	200	-	
C_{rss}	Reverse Transfer Capacitance		-	75	-	
Q_g	Total Gate Charge ²	$V_{DS} = 200V$ $V_{GS} = 10V$ $I_D = 3A$	19.1	-	33	nC
Q_{gs}	Gate – Source Charge ²		1.0	-	5.8	
Q_{gd}	Gate – Drain Charge ²		6.7	-	19.9	
$T_{d(on)}$	Turn-On Delay	$V_{DD} = 200V$ $R_g = 7.5\Omega$ $I_D = 3A$ $V_{GS} = 10V$	-	-	30	ns
t_r	Rise Time		-	-	35	
$T_{d(off)}$	Turn-Off Delay Time		-	-	55	
t_f	Fall Time		-	-	35	

SOURCE – DRAIN DIODE RATINGS AND CHARACTERISTICS

I_s	Continuous Source Current (MAX)		-	-	3	A
I_{SM}	Pulsed Source Current (MAX) ¹		-	-	12	
V_{SD}	Diode Forward Voltage ²	$V_{GS} = 0V$ $I_s = 3A$	-	-	1.4	V
t_{rr}	Reverse Recovery Time	$V_{GS} = 0V$ $I_s = 3A$	-	-	700	ns
Q_{rr}	Reverse Recovery Charge ²	$di/dt = 100A/\mu s$ $V_{DD} \leq 50V$	-	-	6.2	μC

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.