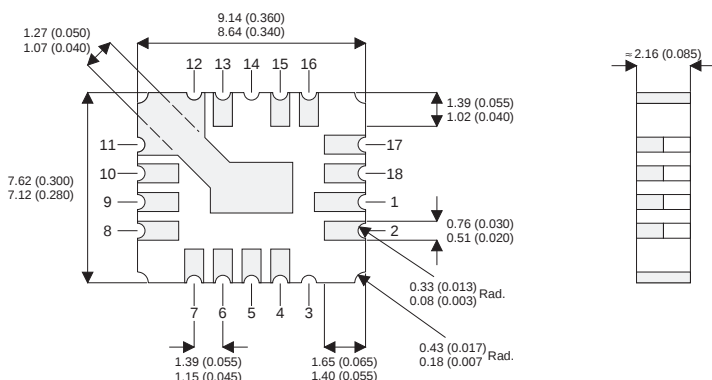


MECHANICAL DATA

Dimensions in mm (inches)



LCC4

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

P-CHANNEL POWER MOSFET

V_{DSS} **-100V**
 $I_{D(cont)}$ **-3.5A**
 $R_{DS(on)}$ **0.6 Ω**

FEATURES

- SURFACE MOUNT
- SMALL FOOTPRINT
- HERMETICALLY SEALED
- DYNAMIC dv/dt RATING
- AVALANCHE ENERGY RATING
- SIMPLE DRIVE REQUIREMENTS
- LIGHTWEIGHT

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

V_{GS}	Gate – Source Voltage	$\pm 20V$
I_D	Continuous Drain Current ($V_{GS} = -10V$, $T_{case} = 25^{\circ}C$)	-3.5A
I_D	Continuous Drain Current ($V_{GS} = -10V$, $T_{case} = 100^{\circ}C$)	-2.2A
I_{DM}	Pulsed Drain Current ¹	-14A
P_D	Power Dissipation @ $T_{case} = 25^{\circ}C$	14W
	Linear Derating Factor	0.09W/ $^{\circ}C$
E_{AS}	Single Pulse Avalanche Energy ²	115mJ
dv/dt	Peak Diode Recovery ³	-5.0V/ns
T_J , T_{stg}	Operating and Storage Temperature Range	-55 to +150 $^{\circ}C$
	Surface Temperature (for 5 sec).	300 $^{\circ}C$

Notes

- 1) Pulse Test: Pulse Width $\leq 300\mu s$, $\delta \leq 2\%$
- 2) @ $V_{DD} = -25V$, Peak $I_L = -3.5A$, Starting $T_J = 25^{\circ}C$
- 3) @ $I_{SD} \leq -3.5A$, $di/dt \leq -110A/\mu s$, $V_{DD} \leq BV_{DSS}$, $T_J \leq 150^{\circ}C$, Suggested $R_G = 7.5\Omega$

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.

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
STATIC ELECTRICAL RATINGS							
BV _{DSS}	Drain – Source Breakdown Voltage	V _{GS} = 0	I _D = -1mA	-100			V
$\frac{\Delta BV_{DSS}}{\Delta T_J}$	Temperature Coefficient of Breakdown Voltage	Reference to 25°C I _D = -1mA			-0.10		V/°C
R _{DS(on)}	Static Drain – Source On–State Resistance ¹	V _{GS} = -10V	I _D = -2.2A			0.6	Ω
		V _{GS} = -10V	I _D = -3.5A			0.69	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS}	I _D = -250μA	-2		-4	V
g _{fs}	Forward Transconductance ¹	V _{DS} ≥ -15V	I _{DS} = -2.2A	1.25			S(ṽ)
I _{DSS}	Zero Gate Voltage Drain Current	V _{GS} = 0	V _{DS} = -80V			-25	μA
			T _J = 125°C			-250	
I _{GSS}	Forward Gate – Source Leakage	V _{GS} = -20V				-100	nA
I _{GSS}	Reverse Gate – Source Leakage	V _{GS} = 20V				100	
DYNAMIC CHARACTERISTICS							
C _{iss}	Input Capacitance	V _{GS} = 0			380		pF
C _{oss}	Output Capacitance	V _{DS} = -25V			170		
C _{rss}	Reverse Transfer Capacitance	f = 1MHz			45		
Q _g	Total Gate Charge	V _{GS} = -10V				16.3	nC
Q _{gs}	Gate – Source Charge	I _D = -3.5A				4.7	
Q _{gd}	Gate – Drain (“Miller”) Charge	V _{DS} = -50V				9.0	
t _{d(on)}	Turn–On Delay Time	V _{DD} = -50V				60	ns
t _r	Rise Time	I _D = -3.5A				100	
t _{d(off)}	Turn–Off Delay Time	R _G = 7.5Ω				50	
t _f	Fall Time					70	
SOURCE – DRAIN DIODE CHARACTERISTICS							
I _S	Continuous Source Current					-3.5	A
I _{SM}	Pulse Source Current ²					-14	
V _{SD}	Diode Forward Voltage ¹	I _S = -3.5A	T _J = 25°C			-4.8	V
		V _{GS} = 0					
t _{rr}	Reverse Recovery Time	I _F = -3.5A	T _J = 25°C			200	ns
Q _{rr}	Reverse Recovery Charge ¹	d _i / d _t ≤ -100A/μs V _{DD} ≤ -50V				3.1	μC
t _{on}	Forward Turn–On Time			Negligible			
THERMAL CHARACTERISTICS							
R _{θJC}	Thermal Resistance Junction – Case					9.1	°C/W
R _{θJPC}	Thermal Resistance Junction – PC Board					26	

Notes

- 1) Pulse Test: Pulse Width $\leq 300\text{ms}$, $\delta \leq 2\%$
- 2) Repetitive Rating – Pulse width limited by maximum junction temperature.

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.