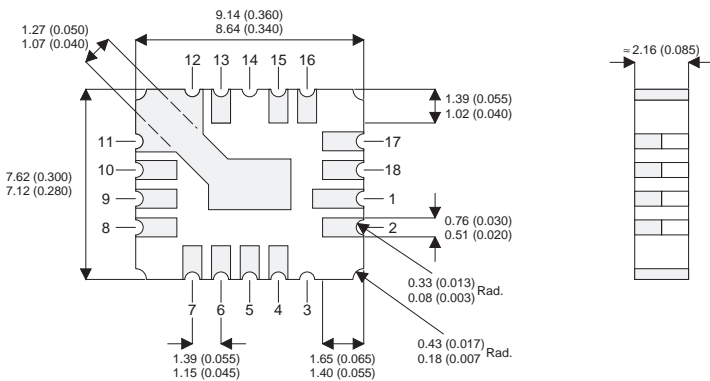


MECHANICAL DATA

Dimensions in mm (inches)

**P-CHANNEL
POWER MOSFET**



V_{DSS} **-100V**
 $I_{D(cont)}$ **-6.1A**
 $R_{DS(on)}$ **0.345Ω**

LCC4

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

FEATURES

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

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

V_{GS}	Gate – Source Voltage	±20V
I_D	Continuous Drain Current @ $T_{case} = 25^{\circ}C$	- 6.1A
I_D	Continuous Drain Current @ $T_{case} = 100^{\circ}C$	- 3.8A
I_{DM}	Pulsed Drain Current	- 24A
P_D	Power Dissipation @ $T_{case} = 25^{\circ}C$	22W
	Linear Derating Factor	0.17W/°C
E_{AS}	Single Pulse Avalanche Energy ²	92mJ
dv/dt	Peak Diode Recovery ³	- 5.5V/ns
T_J, T_{stg}	Operating and Storage Temperature Range	- 55 to +150°C
	Surface Temperature (for 5 sec).	300°C

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	$V_{\text{GS}} = 0$	$I_{\text{D}} = -1\text{mA}$	-100		V	
$\frac{\Delta BV_{\text{DSS}}}{\Delta T_{\text{J}}}$	Temperature Coefficient of Breakdown Voltage	Reference to 25°C $I_{\text{D}} = -1\text{mA}$			-0.10	$\text{V}/^{\circ}\text{C}$	
$R_{\text{DS(on)}}$	Static Drain – Source On–State Resistance ¹	$V_{\text{GS}} = -10\text{V}$	$I_{\text{D}} = -3.8\text{A}$			0.30	Ω
		$V_{\text{GS}} = -10\text{V}$	$I_{\text{D}} = -6.1\text{A}$			0.345	
$V_{\text{GS(th)}}$	Gate Threshold Voltage	$V_{\text{DS}} = V_{\text{GS}}$	$I_{\text{D}} = -250\text{mA}$	-2		-4	V
g_{fs}	Forward Transconductance ¹	$V_{\text{DS}} \geq -15\text{V}$	$I_{\text{DS}} = -3.8\text{A}$	2.5			$\text{S} (\bar{V})$
I_{DSS}	Zero Gate Voltage Drain Current	$V_{\text{GS}} = 0$	$V_{\text{DS}} = 0.8BV_{\text{DSS}}$			-25	μA
			$T_{\text{J}} = 125^{\circ}\text{C}$				-250
I_{GSS}	Forward Gate – Source Leakage	$V_{\text{GS}} = -20\text{V}$				-100	nA
I_{GSS}	Reverse Gate – Source Leakage	$V_{\text{GS}} = 20\text{V}$				100	
DYNAMIC CHARACTERISTICS							
C_{iss}	Input Capacitance	$V_{\text{GS}} = 0$			800		pF
C_{oss}	Output Capacitance	$V_{\text{DS}} = -25\text{V}$			350		
C_{rss}	Reverse Transfer Capacitance	$f = 1\text{MHz}$			125		
Q_{g}	Total Gate Charge	$V_{\text{GS}} = -10\text{V}$		14.7		38.4	nC
Q_{gs}	Gate – Source Charge	$I_{\text{D}} = -6.1\text{A}$		1.0		7.1	
Q_{gd}	Gate – Drain (“Miller”) Charge	$V_{\text{DS}} = 0.5BV_{\text{DSS}}$		2.0		21	
$t_{\text{d(on)}}$	Turn–On Delay Time	$V_{\text{DD}} = -50\text{V}$				60	ns
t_{r}	Rise Time	$I_{\text{D}} = -6.1\text{A}$				140	
$t_{\text{d(off)}}$	Turn–Off Delay Time	$R_{\text{G}} = 7.5\Omega$				140	
t_{f}	Fall Time					140	
SOURCE – DRAIN DIODE CHARACTERISTICS							
I_{S}	Continuous Source Current					-1.6	A
I_{SM}	Pulse Source Current ²					-24	
V_{SD}	Diode Forward Voltage ¹	$I_{\text{S}} = -1.6\text{A}$	$T_{\text{J}} = 25^{\circ}\text{C}$			-4.7	V
t_{rr}	Reverse Recovery Time	$I_{\text{F}} = -6.1\text{A}$	$T_{\text{J}} = 25^{\circ}\text{C}$			250	ns
Q_{rr}	Reverse Recovery Charge ¹	$d_{\text{i}} / d_{\text{t}} \leq -100\text{A}/\mu\text{s}$		$V_{\text{DD}} \leq -50\text{V}$		3.0	μC
t_{on}	Forward Turn–On Time					Negligible	
PACKAGE CHARACTERISTICS							
L_{D}	Internal Drain Inductance (measured from 6mm down drain lead to centre of die)				1.8		nH
L_{S}	Internal Source Inductance (from 6mm down source lead to source bond pad)				4.3		
THERMAL CHARACTERISTICS							
$R_{\theta\text{JC}}$	Thermal Resistance Junction – Case					5.8	$^{\circ}\text{C}/\text{W}$
$R_{\theta\text{JPC}}$	Thermal Resistance Junction – PC Board					19	

Notes

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