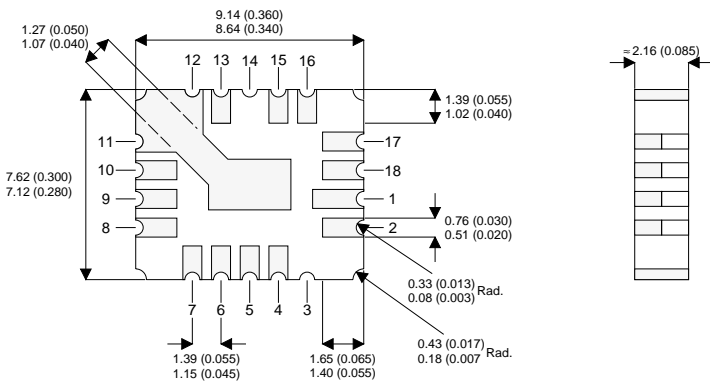


MECHANICAL DATA

Dimensions in mm (inches)



LCC4

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

**N-CHANNEL
POWER MOSFET**

V_{DSS}	60V
$I_{D(cont)}$	6.7A
$R_{DS(on)}$	0.15Ω

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 ($V_{GS} = 10V, T_{case} = 25^{\circ}C$)	6.7A
I_D	Continuous Drain Current ($V_{GS} = 10V, T_{case} = 100^{\circ}C$)	4.2A
I_{DM}	Pulsed Drain Current ¹	27A
P_D	Power Dissipation @ $T_{case} = 25^{\circ}C$	14W
	Linear Derating Factor	0.11W/ $^{\circ}C$
E_{AS}	Single Pulse Avalanche Energy ²	110mJ
dv/dt	Peak Diode Recovery ³	5.5V/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) @ $V_{DD} = 50V$, $L \geq 570\mu H$, $R_G = 25\Omega$, Peak $I_L = 14A$, Starting $T_J = 25^{\circ}C$
- 3) @ $I_{SD} \leq 14A$, $di/dt \leq 140A/\mu s$, $V_{DD} \leq BV_{DSS}$, $T_J \leq 150^{\circ}C$, Suggested $R_G = 7.5\Omega$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
STATIC ELECTRICAL RATINGS					
BV_{DSS} Drain – Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 1mA$	60			V
$\frac{\Delta BV_{DSS}}{\Delta T_J}$ Temperature Coefficient of Breakdown Voltage	Reference to $25^{\circ}C$ $I_D = 1mA$		0.068		$V/^{\circ}C$
$R_{DS(on)}$ Static Drain – Source On–State Resistance ¹	$V_{GS} = 10V$ $I_D = 4.2A$ $V_{GS} = 10V$ $I_D = 6.7A$			0.15 0.17	Ω
$V_{GS(th)}$ Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 250\mu A$	2		4	V
g_{fs} Forward Transconductance ¹	$V_{DS} \geq 15V$ $I_{DS} = 4.2A$	4.3			S (\bar{v})
I_{DSS} Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 0.8BV_{DSS}$ $T_J = 125^{\circ}C$			25 250	μA
I_{GSS} Forward Gate – Source Leakage	$V_{GS} = 20V$			100	nA
I_{GSS} Reverse Gate – Source Leakage	$V_{GS} = -20V$			-100	nA
DYNAMIC CHARACTERISTICS					
C_{iss} Input Capacitance	$V_{GS} = 0$		640		pF
C_{oss} Output Capacitance	$V_{DS} = 25V$		340		
C_{rss} Reverse Transfer Capacitance	$f = 1MHz$		69		
Q_g Total Gate Charge	$V_{GS} = 10V$	9.0		26	nC
Q_{gs} Gate – Source Charge	$I_D = 6.7A$	2.0		5.0	
Q_{gd} Gate – Drain (“Miller”) Charge	$V_{DS} = 0.5BV_{DSS}$	6.0		13	
$t_{d(on)}$ Turn–On Delay Time	$V_{DD} = 30V$			14	ns
t_r Rise Time	$I_D = 6.7A$			70	
$t_{d(off)}$ Turn–Off Delay Time	$R_G = 7.5\Omega$			37	
t_f Fall Time				45	
SOURCE – DRAIN DIODE CHARACTERISTICS					
I_S Continuous Source Current				6.7	A
I_{SM} Pulse Source Current ²				27	
V_{SD} Diode Forward Voltage ¹	$I_S = 6.7A$ $T_J = 25^{\circ}C$ $V_{GS} = 0$			2.3	V
t_{rr} Reverse Recovery Time	$I_F = 6.7A$ $T_J = 25^{\circ}C$			200	ns
Q_{rr} Reverse Recovery Charge ¹	$d_i / d_t \leq 100A/\mu s$ $V_{DD} \leq 50V$			1.9	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					
$R_{\theta JC}$ Thermal Resistance Junction – Case				9.1	$^{\circ}C/W$
$R_{\theta JPC}$ Thermal Resistance Junction – PC Board				26	

Notes

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



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