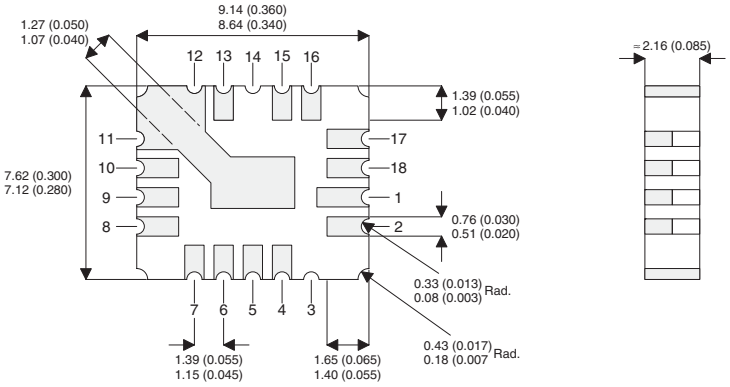
2N6800LCC4

MECHANICAL DATA

Dimensions in mm (inches)



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

N–CHANNEL ENHANCEMENT MODE HIGH VOLTAGE POWER MOSFETS

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

FEATURES

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

ABSOLUTE MAXIMUM RATINGS T_{CASE} = 25°C unless otherwise stated

V_{DSS}	Drain - Source Voltage		400V
I_D	Drain Current	- Continuous (V_{GS} = 10V, T_C = 25°C)	3A
		- Continuous (V_{GS} = 10V, T_C = 100°C)	2A
I_{DM}	Drain Current	- Pulsed[2]	12A
V_{GSS}	Gate - Source Voltage		±20V
P_{tot}	Total Power Dissipation at T_{case} ≤ 25°C		25W
	De-rate Linearly above 25°C		0.20W/°C
T_j,T_{stg}	Operating and Storage Junction Temperature Range		-55 to +150°C
R_{thj-mb}	Thermal Resistance Junction – Mounting Base		5.0°C/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 ≤ 380μS, Duty Cycle, δ 2%
3) T_J ≤ 150°C, V_{DD} ≤ BV_{DSS}, Suggested R_G = 7.5 , I_{SD} ≤ 1.5A, di/dt ≤ 50A/μs

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STATIC ELECTRICAL RATINGS (T_{case}=25°C unless otherwise stated)

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

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	V_{DS} = 25V f = 1.0MHz	V_{GS} = 0V	-	620	-	pF
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 = 7.5Ω	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 di/dt=100A/µs	I_s = 3A V_{DD} ≤ 50V	-	-	700	ns
Q_{rr}	Reverse Recovery Charge[2]			-	-	6.2	µC

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