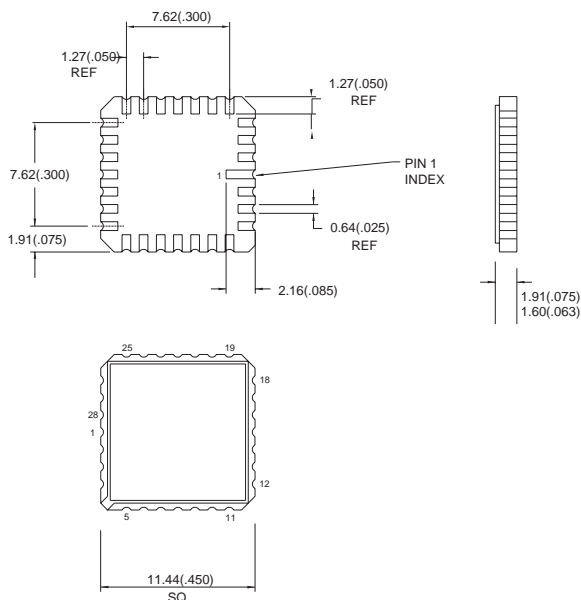


**MECHANICAL DATA**

Dimensions in mm (inches)



**LCC28 Ceramic Package**

- |                   |                   |                   |
|-------------------|-------------------|-------------------|
| Pin 1 - Gate 1    | Pin 2 - Source 1  | Pin 3 - Source 1  |
| Pin 4 - N/C       | Pin 5 - Drain 1   | Pin 6 - Drain 1   |
| Pin 7 - N/C       | Pin 8 - Gate 2    | Pin 9 - Source 2  |
| Pin 10 - Source 2 | Pin 11 - N/C      | Pin 12 - Drain 2  |
| Pin 13 - Drain 2  | Pin 14 - N/C      | Pin 15 - Gate 3   |
| Pin 16 - Source 3 | Pin 17 - Source 3 | Pin 18 - N/C      |
| Pin 19 - Drain 3  | Pin 20 - Drain 3  | Pin 21 - N/C      |
| Pin 22 - Gate 4   | Pin 23 - Source 4 | Pin 24 - Source 4 |
| Pin 25 - N/C      | Pin 26 - Drain 4  | Pin 27 - Drain 4  |
|                   | Pin 28 - N/C      |                   |

**QUAD N-CHANNEL  
ENHANCEMENT MOSFETS**

**FEATURES**

- HERMETIC CERAMIC SURFACE MOUNT PACKAGE
- LIGHTWEIGHT
- MILITARY SCREENING LEVEL OPTIONS
- SPACE QUALITY LEVELS OPTIONS

**APPLICATIONS**

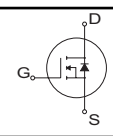
- FAST SWITCHING
- MOTOR CONTROLS
- POWER SUPPLIES

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

$V_{DS}$	Drain Source Voltage	100V
$I_D$	Continuous Drain Current	1A
$I_D @ T_c = 100^{\circ}C$	Continuous Drain Current	0.6A
$I_{DM}$	Pulsed Drain Current *	4A
$V_{GS}$	Gate Source Voltage	$\pm 20V$
$P_D$	Maximum Power Dissipation	4.5W
$R_{\theta JC}$	Thermal Resistance Junction to Case	27.78 $^{\circ}C/W$
$T_J, T_{stg}$	Operating and Storage Temperature Range	-55 to +150 $^{\circ}C$

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 FOR EACH CHIP** ( $T_{\text{case}} = 25^{\circ}\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{\text{DSS}}$ Drain – Source Breakdown Voltage	$V_{\text{GS}} = 0$ $I_{\text{D}} = 1\text{mA}$	100			V
$V_{\text{GS(th)}}$ Gate Threshold Voltage	$V_{\text{DS}} = V_{\text{GS}}$ $I_{\text{D}} = 250\mu\text{A}$	2.0		4.0	
$I_{\text{GSSF}}$ Gate – Source Leakage Forward	$V_{\text{GS}} = 20\text{V}$			100	nA
$I_{\text{GSSR}}$ Gate – Source Leakage Reverse	$V_{\text{GS}} = -20\text{V}$			-100	
$I_{\text{DSS}}$ Zero Gate Voltage Drain Current	$V_{\text{DS}} = 80\text{V}$ , $V_{\text{GS}} = 0$			25	$\mu\text{A}$
	$T_{\text{C}} = 125^{\circ}\text{C}$			250	
$R_{\text{DS(on)}}$ Static Drain Source On-State Resistance*	$V_{\text{GS}} = 10\text{V}$ $I_{\text{D}} = 0.6\text{A}$			0.70	$\Omega$
	$V_{\text{GS}} = 10\text{V}$ $I_{\text{D}} = 1.0\text{A}$			0.80	
$g_{\text{fs}}$ Forward Transconductance *	$V_{\text{DS}} = 15\text{V}$ $I_{\text{DS}} = 0.6\text{A}$	0.86			S ( $\tau$ )
$C_{\text{iss}}$ Input Capacitance	$V_{\text{GS}} = 0$ $V_{\text{DS}} = 25\text{V}$ $f = 1\text{MHz}$		180		pF
$C_{\text{oss}}$ Output Capacitance			82		
$C_{\text{riss}}$ Reverse Transfer Capacitance			15		
$Q_{\text{g}}$ Total Gate Charge	$V_{\text{GS}} = 10\text{V}$ $V_{\text{DS}} = 50\text{V}$			15	nC
$Q_{\text{gs}}$ Gate – Source Charge	$I_{\text{DS}} = 1.0\text{A}$			7.5	
$Q_{\text{gd}}$ Gate – Drain Charge				7.5	
$t_{\text{d(on)}}$ Turn-On Delay Time	$V_{\text{DD}} = 50\text{V}$ $I_{\text{D}} = 1.0\text{A}$			20	ns
$t_{\text{r}}$ Rise Time	$R_{\text{G}} = 24\Omega$			25	
$t_{\text{d(off)}}$ Turn-Off Delay Time	(MOSFET switching times are essentially independent of operating temperature.)			40	
$t_{\text{f}}$ Fall Time				40	
<b>BODY- DRAIN DIODE RATINGS &amp; CHARACTERISTICS</b>					
$I_{\text{S}}$ Continuous Source Current Body Diode	Modified MOS POWER symbol showing the intergal 			1.0	A
$I_{\text{SM}}$ Source Current* (Body Diode)	P-N junction rectifier.			4.0	
$V_{\text{SD}}$ Diode Forward Voltage *	$I_{\text{S}} = 1.0\text{A}$ $V_{\text{GS}} = 0$			1.5	V
$t_{\text{rr}}$ Reverse Recovery Time	$I_{\text{F}} = 1.0\text{A}$ $T_{\text{J}} = 25^{\circ}\text{C}$			200	ns
$Q_{\text{RR}}$ Reverse Recovery Charge	$d_i / d_t = 100\text{A}/\mu\text{s}$ $V_{\text{DD}} = 50\text{V}$			0.83	$\mu\text{C}$

**Notes**

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ ,  $\delta \leq 2\%$