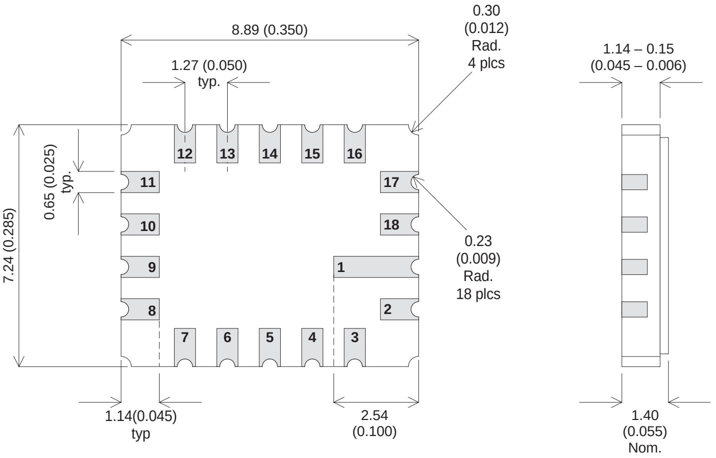
MCA3703

MECHANICAL DATA
Dimensions in mm (inches)

QUAD N–CHANNEL ENHANCEMENT MOSFETS



LCC18 Ceramic Package

Pin 1 - Drain 1
Pin 2 - N/C
Pin 3 - Gate 1
Pin 4 - Source 1
Pin 5 - Gate 2
Pin 6 - N/C
Pin 7 - Source 2
Pin 8 - N/C
Pin 9 - Drain 2
Pin 10 - Drain 3
Pin 11 - N/C
Pin 12 - Source 3
Pin 13 - Gate 3
Pin 14 - Source 4
Pin 15 - N/C
Pin 16 - Gate 4
Pin 17 - N/C
Pin 18 - Drain 4

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°C unless otherwise stated)

V_{DS}	Drain Source Voltage	100V
I_D	Continuous Drain Current	1A
I_D @T_c = 100°C	Continuous Drain Current	0.6A
I_{DM}	Pulsed Drain Current *	4A
V_{GS}	Gate Source Voltage	±20V
P_D	Maximum Power Dissipation	3.5W
$R_{\theta JC}$	Thermal Resistance Junction to Case	35.7°C/W
T_J, T_{stg}	Operating and Storage Temperature Range	-55 to +150°C

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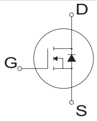
ELECTRICAL CHARACTERISTICS FOR EACH CHIP (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
BV_{DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0$	$I_D = 1mA$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$	$I_D = 250\mu A$	2.0		4.0	
I_{GSSF}	Gate – Source Leakage Forward	$V_{GS} = 20V$				100	nA
I_{GSSR}	Gate – Source Leakage Reverse	$V_{GS} = -20V$				-100	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 80V$.	$V_{GS} = 0$			25	μA
			$T_C = 125°C$			250	
$R_{DS(on)}$	Static Drain Source On-State Resistance*	$V_{GS} = 10V$	$I_D = 0.6A$			0.70	Ω
		$V_{GS} = 10V$	$I_D = 1.0A$			0.80	
gfs	Forward Transductance *	$V_{DS} = 15V$	$I_{DS} = 0.6A$	0.86			S (℧)
C_{iss}	Input Capacitance	$V_{GS} = 0$	$V_{DS} = 25V$		180		pF
C_{oss}	Output Capacitance	f = 1MHz			82		
C_{rss}	Reverse Transfer Capacitance				15		
Q_g	Total Gate Charge	$V_{GS} = 10V$	$V_{DS} = 50V$			15	nC
Q_{gs}	Gate – Source Charge	$I_{DS} = 1.0A$				7.5	
Q_{gd}	Gate – Drain Charge					7.5	
$t_{d(on)}$	Turn–On Delay Time	$V_{DD} = 50V$	$I_D = 1.0A$			20	ns
t_r	Rise Time	$R_G = 24\Omega$				25	
$t_{d(off)}$	Turn–Off Delay Time	(MOSFET switching times are essentially				40	
t_f	Fall Time	independent of operating temperature.)				40	
	BODY– DRAIN DIODE RATINGS & CHARACTERISTICS						
I_S	Continuous Source Current Body Diode	Modified MOS POWER symbol showing the intergal P-N junction rectifier.				1.0	A
I_{SM}	Source Current* (Body Diode)					4.0	
V_{SD}	Diode Forward Voltage *	$I_S = 1.0A$	$V_{GS} = 0$			1.5	V
t_{rr}	Reverse Recovery Time	$I_F = 1.0A$	$T_J = 25°C$			200	ns
Q_{RR}	Reverse Recovery Charge	$d_i / d_t = 100A/\mu s$	$V_{DD} = 50V$			0.83	μC

Notes

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