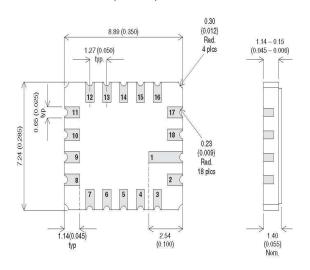




MECHANICAL DATA

Dimensions in mm (inches)



N-CHANNEL DEVICES: 1-4 P-CHANNEL DEVICES: 5-8

				10 = D7		
2	= G3	7	= G5	11 = G7	16	= G1
3	= G4	8	= G6	12 = G8	17	= G2
4	= D4	9	= D6	13 = D8	18	= D2

Pin 14 = N-Channel Common Source (devices 1,2,3,4) Pin 15 = P-Channel Common Source (devices 5,6,7,8)

MULTI CHIP ARRAY 4 COMMON SOURCE P-CHANNEL MOSFETS AND 4 COMMON SOURCE N-CHANNEL FETS

DESCRIPTION

The MCA002 is a ceramic surface mount MOSFET array designed for high reliability applications.

It contains 4 common source P Channel and 4 N Channel common source MOSFETS.

FEATURES

- Ceramic Surface Mount Package
- Screening Options Available

N-Channel Devices

- $V_{(BR)DSS} = 60V$
- $I_D = 200 \text{mA}$
- $RDS_{(ON)MAX} = 5\Omega$
- Common Source Connection

P-Channel Devices

- $V_{(BR)DSS} = -60V$
- $I_D = 200 \text{mA}$
- $RDS_{(ON)MAX} = 10\Omega$
- Common Source Connection

ABSOLUTE MAXIMUM RATINGS

TCASE = 25°C unless otherwise stated		N Channel	P Channel	
V_{DS}	Drain Source Voltage	+60V	-60V	
$\mathbf{V}_{\mathbf{GS}}$	Gate Source Voltage	±30V	±30V	
I_D	Continuous Drain Current (per device) (25°C)	200mA	200mA	
P_D	Power Dissipation (per device)	0.5W	0.5W	
$R_{\Theta j\text{-}c}$	Thermal Resistance (junction to case)	30%	C/W	
$R_{\Theta j\text{-}a}$	Thermal Resistance (junction to ambient)	60%	C/W	
T_j , T_{stg}	Storage, Junction temperature	-55 to	+150℃	

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ELECTRICAL CHARACTERISTICS

N-Channel (per device) $(T_{case} = 25^{\circ}C \text{ unless otherwise stated})$

	Parameter	Test C	onditions	Min.	Тур.	Max.	Unit		
	Static Electrical Ratings								
V _{(BR)DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0V$	$I_D = 100 \mu A$	60	100		V		
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$	$I_D = 1.0 \text{mA}$	0.8	1.6	2.5	V		
I _{GSS}	Gate Body Leakage	$V_{DS} = 0V$	$V_{GS} = \pm 20V$		±1.0	±100	nA		
	Zara Cata Valtaria Drain Current	$V_{DS} = 48V$			0.02	1.0			
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0V$	$T_J = 125^{\circ}C$		1.0	100	μΑ		
$I_{D(ON)}$	On-State Drain Current ²	$V_{DS} = 10V$	$V_{GS} = 10V$	750	1000		mA		
		$V_{GS} = 4.5V$	$I_D = 75 \text{mA}$		4	7.5			
$R_{DS(ON)} \\$	Drain – SourceOn – Resistance ¹	$V_{GS} = 10V$	$I_D = 0.2A$		2.5	5.0	Ω		
			$T_J = 125$ °C		4.4				
g_{fs}	Forward Transconductance ¹	$V_{DS} = 10V$	$I_D = 0.5A$	100	230		mS		
g _{os}	Common Source Output Conductance ¹	$V_{DS} = 5V$	$I_D = 50 \text{mA}$		500		μS		
	Dynamic Characteristics								
C _{iss}	Input Capacitance (f = 1Mhz)	$V_{DS} = 25V$	$V_{GS} = 0 V$		35		pF		
C _{oss}	Output Capacitance (f = 1Mhz)	$V_{DS} = 25V$	$V_{GS} = 0 V$		13		pF		
C _{rss}	Reverse Transfer Capacitance (f = 1Mhz)	$V_{DS} = 25V$	$V_{GS} = 0 V$		4		pF		
	Switching Characteristics								
$t_{d(on)}$	Turn-On Time	VDD = 25V	VGEN = 10V		7		nS		
$t_{d(\mathrm{off})}$	Turn-Off Time	$RL = 50\Omega$ $ID = 0.5A$	$RGEN = 10V$ $RGEN = 25\Omega$		7		nS		

Pulsed: pulse duration = $300\mu s$, duty cycle $\leq 2\%$

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² Pulse width limited by maximum junction temperature





ELECTRICAL CHARACTERISTICS

P-Channel (per device) ($T_{case} = 25^{\circ}C$ unless otherwise stated)

	Parameter	Test C	onditions	Min.	Тур.	Max.	Unit		
	Static Electrical Ratings								
$V_{(BR)DSS}$	Drain – Source Breakdown Voltage	$V_{GS} = 0V$	$I_D = -10\mu A$	-60	-75		V		
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$	$I_D = -1.0 \text{mA}$	-1.0	-1.7	-2.4	V		
T	Ceta Badul sakara	$V_{DS} = 0V$	$V_{GS}=\pm 20V$		±1.0	±100	nA		
I_{GSS}	Gate Body Leakage	V _{DS} = 0 V	$T_J = 125^{\circ}C$		±5.0	±500	IIA		
T	Zero Gate Voltage Drain Current	$V_{DS} = -48V$			-0.02	-1.0			
I_{DSS}	zero Gate voltage Drain Current	$V_{GS} = 0V$	$T_J = 125^{\circ}C$		-0.2	-100	μΑ		
$I_{D(ON)}$	On-State Drain Current ¹	$V_{DS} = -10V$	$V_{GS} = -4.5V$	-50	-80		mA		
		$V_{GS} = -4.5V$	$I_D = -25 \text{mA}$		11	25			
D	Drain – SourceOn – Resistance ¹	$V_{GS} = -4.5V$	$I_{D} = -0.1A$		8	25			
$R_{\mathrm{DS(ON)}}$		$V_{GS} = -10V$	$I_{D} = -0.2A$		6	10	Ω		
			$T_J = 125^{\circ}C$		12		1		
g_{fs}	Forward Transconductance ¹	$V_{DS} = -10V$	$I_{\rm D} = -0.1 {\rm A}$		90		mS		
g _{os}	Common Source Output Conductance ¹	$V_{DS} = -10V$	$I_{\rm D} = -0.1 {\rm A}$		400		μS		
	Dynamic Characteristics								
Ciss	Input Capacitance (f = 1Mhz)	$V_{DS} = -25V$	$V_{GS} = 0 V$		45		pF		
C _{oss}	Output Capacitance (f = 1Mhz)	$V_{DS} = -25V$	$V_{GS} = 0 V$		22		pF		
C _{rss}	Reverse Transfer Capacitance (f = 1Mhz)	$V_{DS} = -25V$	$V_{GS} = 0 V$		3		pF		
	Switching Characteristics								
t _{d(ON)}	Turn-On Delay Time	VDD = -25V,	$RL = 50\Omega$,		4				
t _r			ID = -0.5A, VGEN = -10V		5		nS		
$t_{d(OFF)}$	Turn-Off Delay Time	D = -0.5A, VC			5				
t _r		RGEN = 25Ω			4				

Pulsed : pulse duration = $300\mu s$, duty cycle $\leq 2\%$

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² Pulse width limited by maximum junction temperature