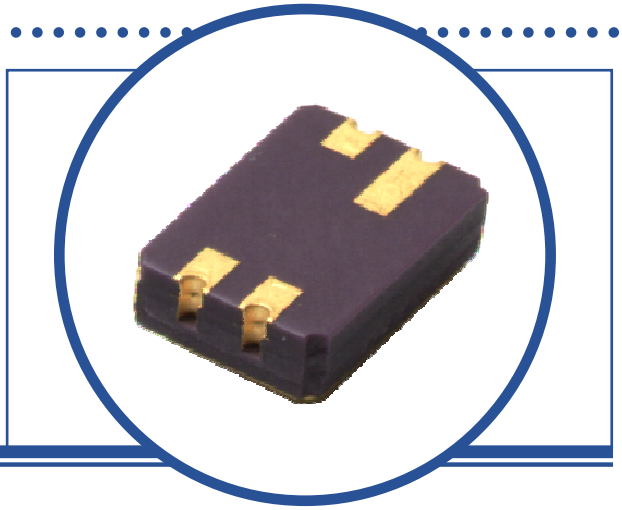
P-CHANNEL ENHANCEMENT MODE MOSFET

TT electronics
Semelab Limited

VP1008CSM4

- Low On-Resistance, $R_{DS(on)}$
- Moderate Threshold, $V_{GS(th)}$
- Low Input Capacitance, C_{ISS}
- Fast Switching Speed
- Hermetic Ceramic Surface Mount Package
- Ideally Suited For Power Supply Circuits, Switching And Driver (Relay, Solenoid, Lamp etc.) Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

V_{DS}	Drain – Source Voltage		100V
V_{GS}	Gate – Source Voltage		±30V
I_D	Continuous Drain Current	T_A = 25°C	300mA
		T_A = 100°C	195mA
I_{DM}	Pulsed Drain Current (1)		3A
P_D	Total Power Dissipation at	T_A = 25°C	400mW
		Derate Above 25°C	3.2mW/°C
T_J	Operating Temperature Range		-55 to +150°C
T_{stg}	Storage Temperature Range		-55 to +150°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient			312.5	°C/W

Notes
(1) Repetitive Rating: Pulse width limited by maximum junction temperature

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0	I_D = -10µA	-100	-110		V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = -1.0mA	-2	-3.4	-4.5	V
I_{GSS}	Gate-Source Leakage Current	V_{GS} = ±20V	V_{DS} = 0V			±100	nA
			T_J = 125°C			±500	
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = -100V	V_{GS} = 0			-10	µA
			T_J = 125°C			-500	
$I_{D(ON)}$(2)	On-State Drain Current	V_{DS} = -15V	V_{GS} = -10V	-1.1	-2		A
$R_{DS(on)}$(2)	Static Drain-Source On-State Resistance	V_{GS} = -10V	I_D = -1.0A		2.5	5	Ω
			T_J = 125°C		4.3	8	
g_{fs}(2)	Forward Transconductance	V_{DS} = -10V	I_D = -0.5A	200	325		m℧
g_{os}(2)	Common Source Output Conductance	V_{DS} = -7.5V	I_D = -0.1A		0.45		

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	V_{GS} = 0		75	150	pF
C_{oss}	Output Capacitance	V_{DS} = -25V		40	60	
C_{rss}	Reverse Transfer Capacitance	f = 1.0MHz		18	25	
$t_{d(on)}$	Turn-On Time	V_{DD} = -25V, R_L= 47Ω, R_G = 50Ω I_D = -0.5A, V_{GEN} = -10V		7	15	ns
t_r				52	60	
$t_{d(off)}$	Turn-Off Time			40	50	
t_f				56	65	

Notes
(2) Pulse Width ≤ 300us, δ ≤ 2%

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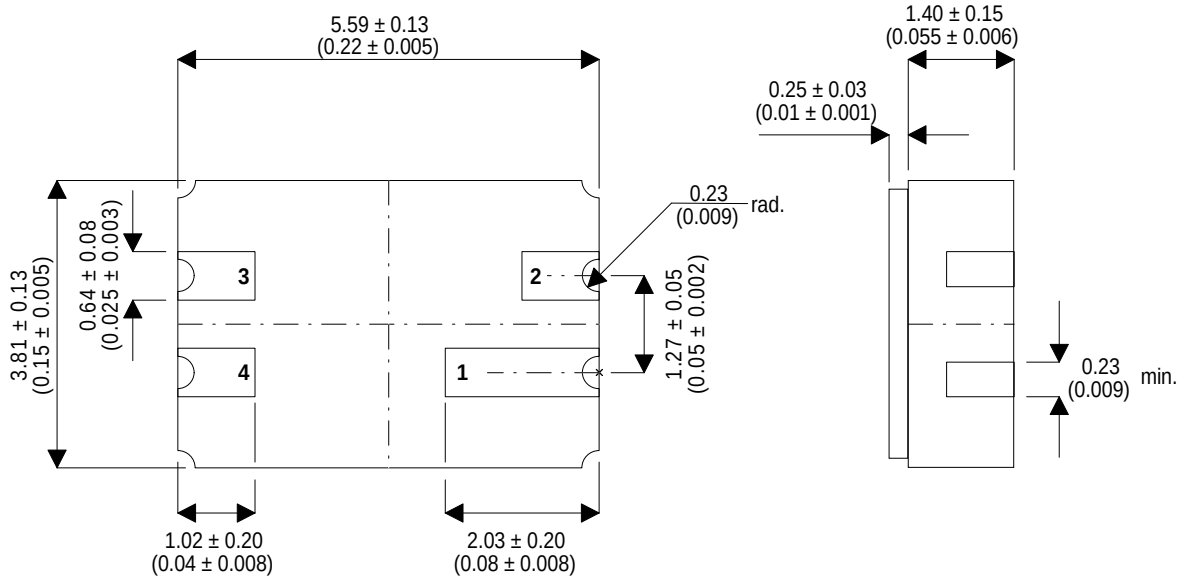
MECHANICAL DATA

Dimensions in mm (inches)



LCC3 PACKAGE (MO-041BA)
Underside View

PAD 1 – Drain
PAD 2 – N/C
PAD 3 – Source
PAD 4 – Gate