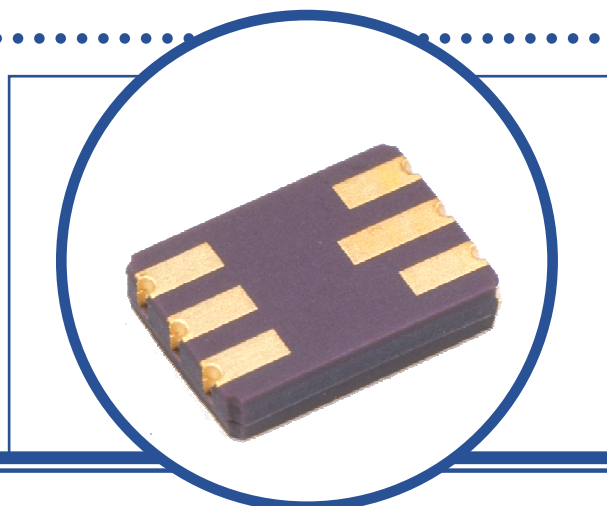


DUAL P-CHANNEL MOSFETS

SML1248PC2A

- $V_{DS} = -60V$, $I_D = -100mA$, $R_{DS(ON)} = 12\Omega$
- Device characterised to Max $T_J = 200^\circ C$ (See Note 1)
- Fast Switching
- Low Threshold Voltage
- Hermetic Ceramic Surface Mount Package



ABSOLUTE MAXIMUM RATINGS⁽¹⁾ ($T_A = 25^\circ C$ unless otherwise stated)

			Each Side	Total Device
V_{DS}	Drain – Source Voltage		-60V	
V_{GS}	Gate – Source Voltage		$\pm 20V$	
I_D	Continuous Drain Current	$T_A = 25^\circ C$	-100mA	
I_D	Continuous Drain Current	$T_A = 100^\circ C$	-78mA	
I_{DM}	Pulsed Drain Current ⁽²⁾		-800mA	
P_T	Total Power Dissipation at	$T_A \leq 25^\circ C$	350mW	500mW ⁽³⁾
		Derate Above $25^\circ C$	2mW/ $^\circ C$	2.86mW/ $^\circ C$
T_J	Junction Temperature Range		-55 to +200 $^\circ C$	
T_{stg}	Storage Temperature Range		-55 to +200 $^\circ C$	

THERMAL PROPERTIES (Each Side)

Symbols	Parameters	Max	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	500	$^\circ C/W$

Notes

- (1) Device characterisation to $T_J = 200^\circ C$ exceeds the maximum $150^\circ C$ junction temperature of the die. Long term reliability of the device above a junction temperature of $150^\circ C$ cannot be guaranteed.
- (2) Repetitive Rating: Pulse width limited by maximum junction temperature.
- (3) Total device power dissipation limited by package.
- (4) Pulse Width $\leq 380\mu s$, $\delta \leq 2\%$

DUAL P-CHANNEL MOSFETS SML1248PC2A

ELECTRICAL CHARACTERISTICS⁽¹⁾ ($T_A = 25^\circ\text{C}$ unless otherwise stated)

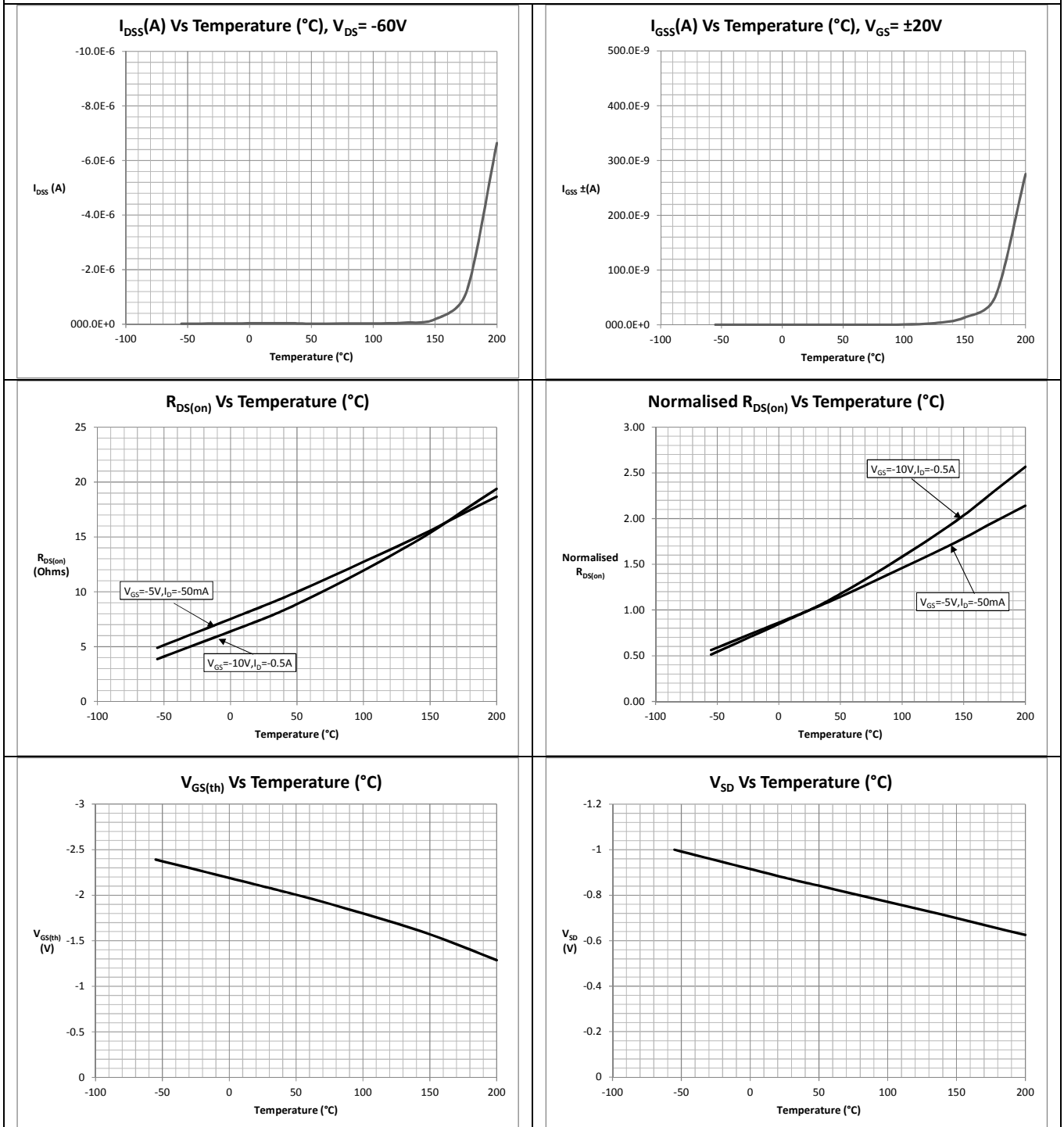
Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = -10\mu\text{A}$	-60			V
$V_{GS(th)}$	Gate Threshold Voltage	$I_D = -250\mu\text{A}$ $V_{DS} \geq V_{GS}$		-2.1	-3.5	
			$T_J = 200^\circ\text{C}$		-1.3	
				-2.4		
$\Delta V_{GS(th)}$	Change in $V_{GS(th)}$ with Temperature	$I_D = -250\mu\text{A}$ $V_{DS} \geq V_{GS}$		4.3	6.5	mV/ $^\circ\text{C}$
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20\text{V}$ $V_{DS} = 0\text{V}$			± 100	nA
			$T_J = 200^\circ\text{C}$		-1.0	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = -60\text{V}$			-1.0	μA
			$T_J = 200^\circ\text{C}$		-500	
$V_{DS(on)}^{(4)}$	Static Drain-Source On-State Voltage	$V_{GS} = -5\text{V}$ $I_D = -50\text{mA}$		-0.44	-0.6	V
		$V_{GS} = -10\text{V}$ $I_D = -0.5\text{A}$		-3.8	-6	
$R_{DS(on)}^{(4)}$	Static Drain-Source On-State Resistance	$V_{GS} = -5\text{V}$ $I_D = -50\text{mA}$		8.7	12	Ω
			$T_J = 200^\circ\text{C}$		18.7	
		$V_{GS} = -10\text{V}$ $I_D = -0.5\text{A}$		7.6	12	
			$T_J = 200^\circ\text{C}$		19.4	
$\Delta R_{DS(on)}^{(4)}$	Change in $R_{DS(on)}$ with Temperature	$V_{GS} = -10\text{V}$ $I_D = -0.5\text{A}$		0.8	1.0	%/ $^\circ\text{C}$
$g_{fs}^{(4)}$	Forward Transconductance	$V_{DS} = -10\text{V}$ $I_D = -0.2\text{A}$	80			m Ω
$V_{SD}^{(3)}$	Body Diode Forward Voltage	$V_{GS} = 0$ $I_S = -0.2\text{A}$		-0.7	-0.88	V
			$T_J = 200^\circ\text{C}$	-0.4	-0.63	

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{GS} = 0$			60	pF
C_{oss}	Output Capacitance	$V_{DS} = -25\text{V}$			30	
C_{rss}	Reverse Transfer Capacitance	$f = 1.0\text{MHz}$			8	
$t_{(on)}$	Turn-On Time	$V_{DD} = -25\text{V}$			20	ns
$t_{(off)}$	Turn-Off Time	$I_D = -0.5\text{A}$ $R_G = 25\Omega$			20	

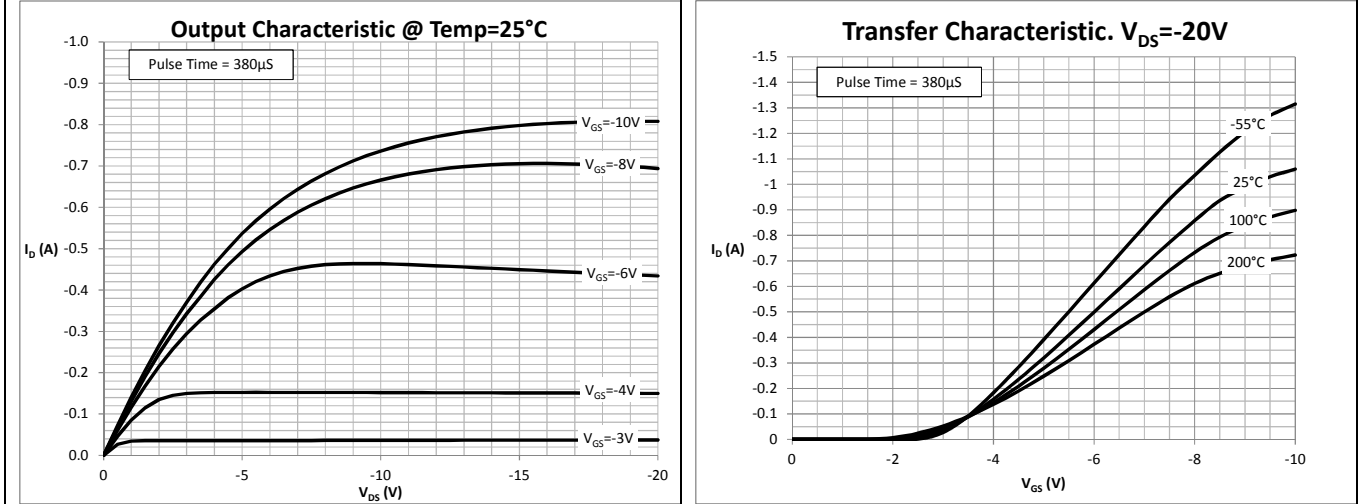
DUAL P-CHANNEL MOSFETS SML1248PC2A

TYPICAL PERFORMANCE CHARACTERISTICS⁽¹⁾



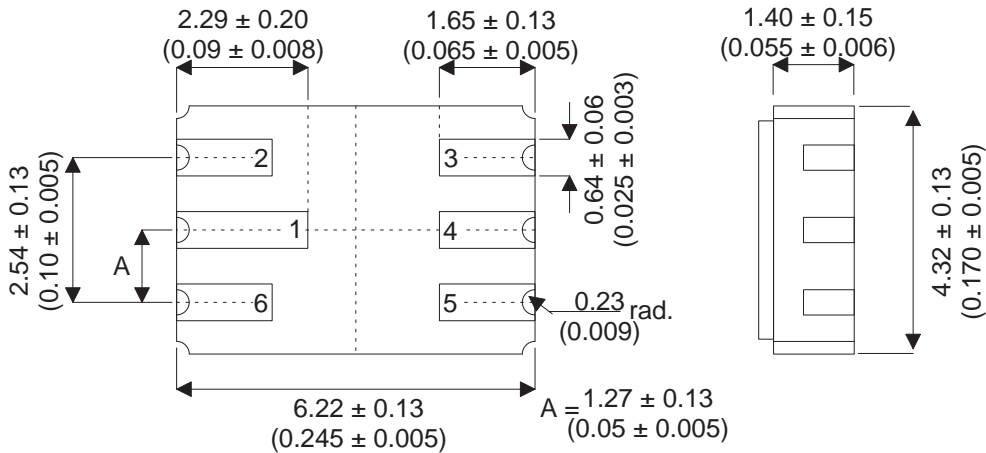
DUAL P-CHANNEL MOSFETS SML1248PC2A

TYPICAL PERFORMANCE CHARACTERISTICS⁽¹⁾



MECHANICAL DATA

Dimensions in mm (inches)



LCC2 (MO-041BB)

Underside View

Pad 1 – Drain 1	Pad 4 – Drain 2
Pad 2 – Gate 1	Pad 5 – Source 2
Pad 3 – Gate 2	Pad 6 – Source 1