



DESCRIPTION

P-Channel MOSFET

FEATURES

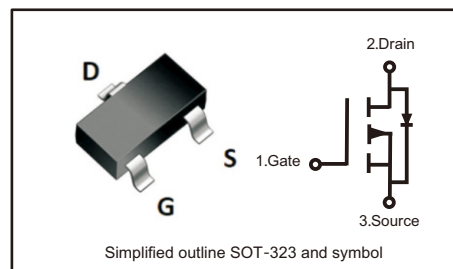
- Energy Efficient
- Low Threshold Voltage
- High-speed Switching
- Miniature Surface Mount Package Saves Board Space

APPLICATION

- DC-DC converters, load switching, power management in portable and battery-powered products such as computers, printers, cellular and cordless telephones.

PINNING

PIN	DESCRIPTION
1	GATE
2	DRAIN
3	SOURCE



MAXIMUM RATINGS (Ta =25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-20	V
Gate-Source Voltage	V_{GSS}	± 8	V
Continuous Drain Current	Steady-State $t \leq 5s$	-1.4	A
		-1.5	
Pulsed Drain Current	$T_p = 10\mu s$	-3	A
Power Dissipation(Note1)	$T_A = 25^\circ C$ $T_A = 70^\circ C$	0.29	W
		0.19	
Thermal Resistance-Junction to Ambient(Note1)	$R_{\theta JA}$	430	$^\circ C/W$
Operation Junction Temperature	T_j	-55 to +150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

Notes: 1.1-in2 2oz Cu PCB board.

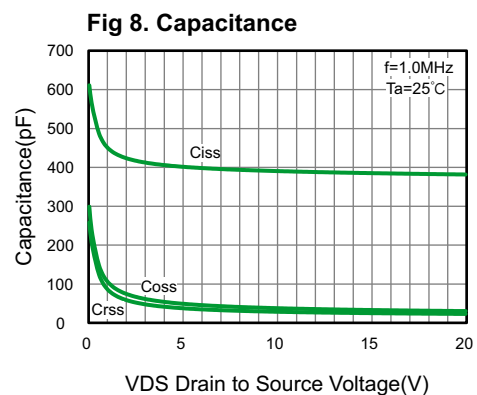
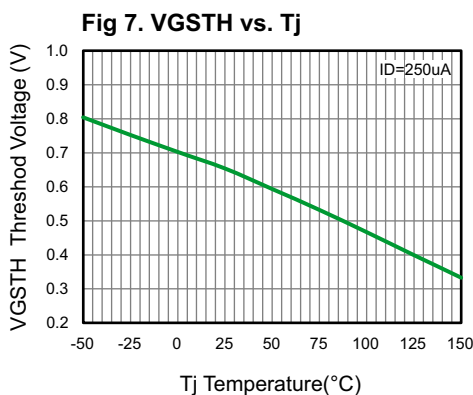
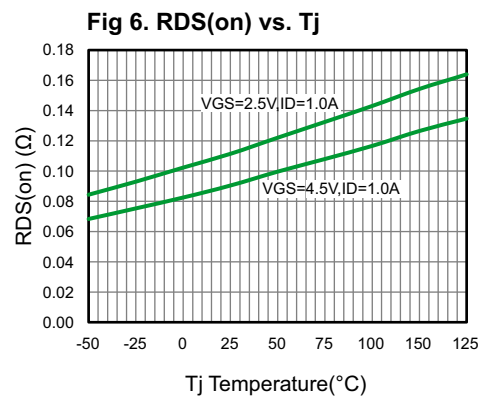
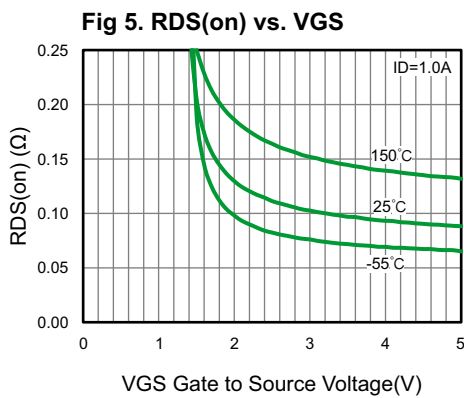
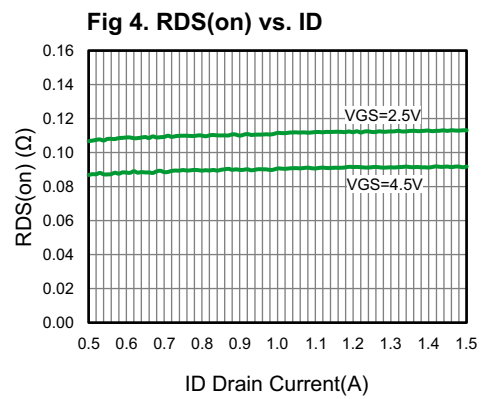
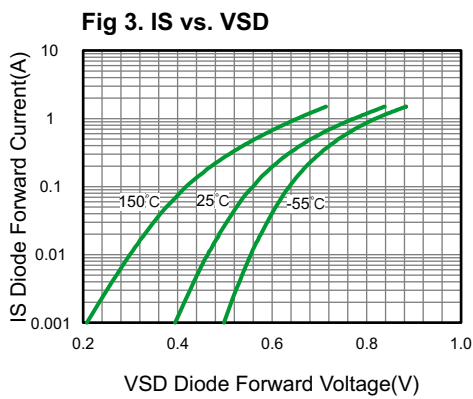
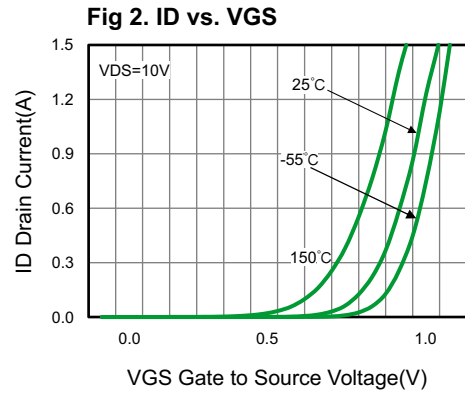
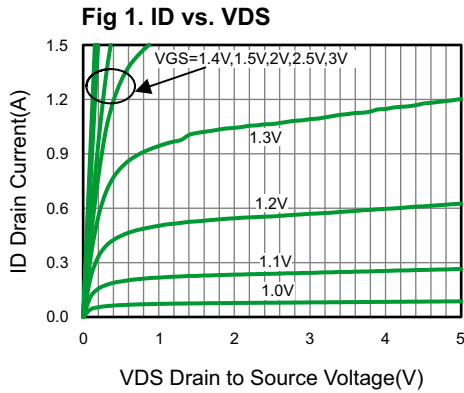


ELECTRICAL CHARACTERISTICS(Ta = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
OFF Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 8V, V_{DS} = 0V$			± 100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-0.6	-1	V
Static Drain-Source On-State Resistan	$R_{DS(on)}$	$V_{GS} = -2.5V, I_D = -1A$		110	150	m Ω
		$V_{GS} = -4.5V, I_D = -1A$		90	120	
Dynamic Characteristics						
Input Capacitance	C_{ISS}	$V_{DS} = -10V$ $V_{GS} = 0V$ $f = 1.0MHz$		400		pF
Output Capacitance	C_{OSS}			41		
Reverse Transfer Capacitance	C_{RSS}			30		
Gate Resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		12		Ω
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = -10V$ $V_{GS} = -4.5V$ $I_D = -1.2A$		4		nC
Gate-Source Charge	Q_{gs}			0.6		
Gate-Drain Charge	Q_{gd}			0.85		
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = -10V,$ $R_{GEN} = 6\Omega,$ $V_{GS} = -4.5V,$ $I_D = -1.2A$		5		ns
Turn-On Rise Time	t_{rr}			11		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			18		
Body Diode Characteristics						
Drain-Source Diode Forward Voltage	V_{SD}	$I_S = -1A, V_{GS} = 0V$		-0.79	-1.5	V
Diode Forward Current	I_S				-1	A
Reverse Recovery Charge	t_{rr}	$di/dt = 100A/\mu s$ $I_S = -1A$		30		nS
Reverse Recovery Time	Q_{rr}				12	

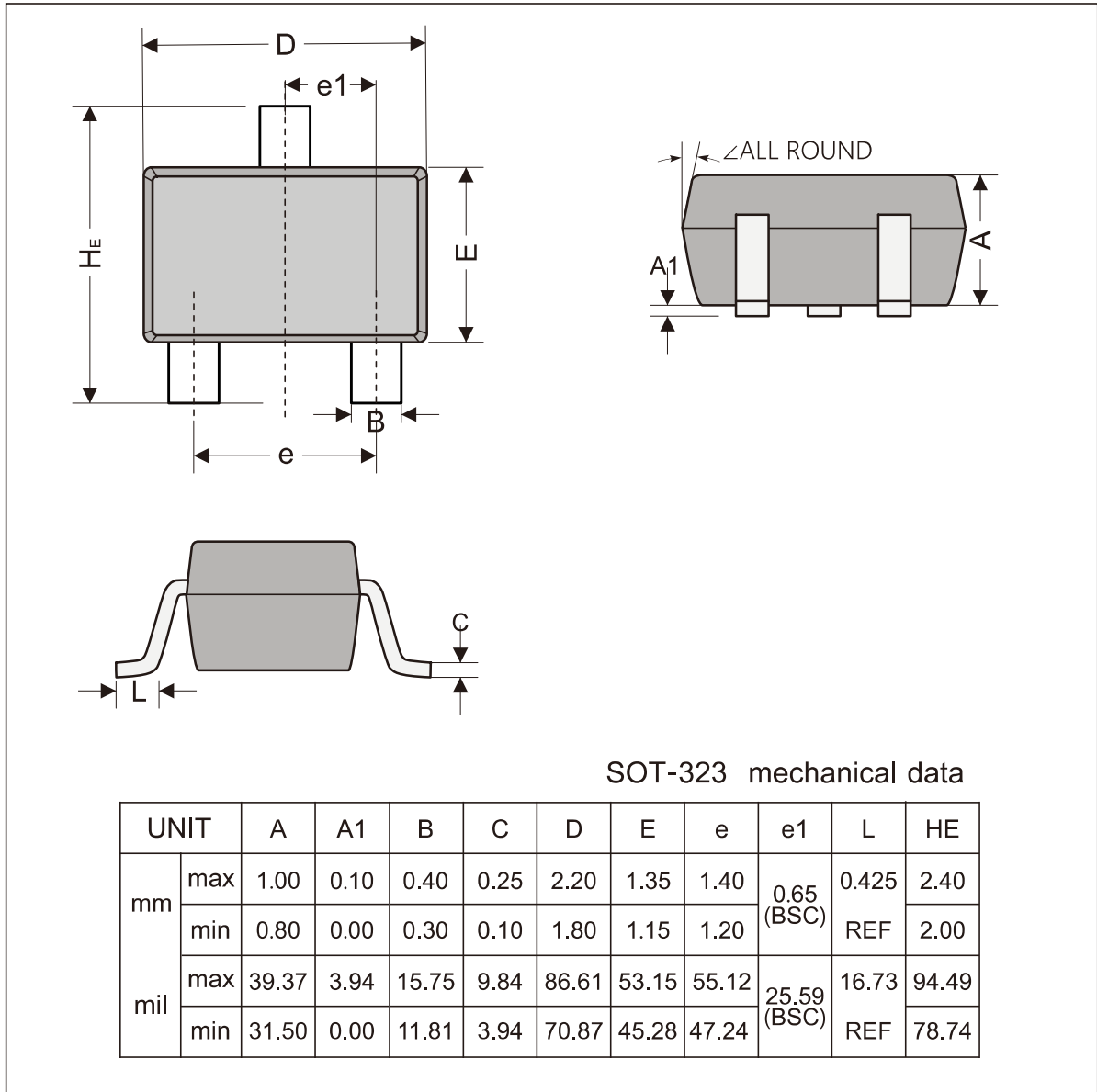


Typical Performance Characteristics

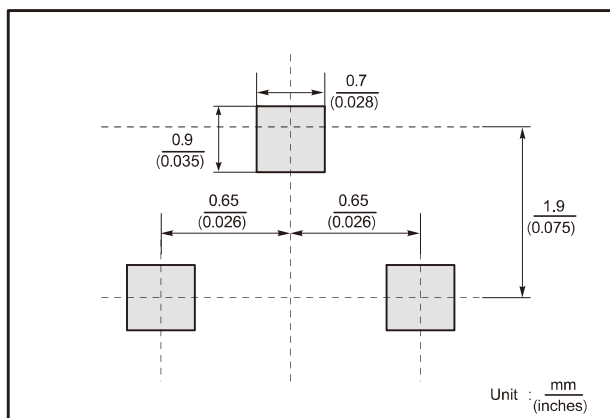




SOT-323 Package Outline Dimensions



The recommended mounting pad size



Marking

Type number	Marking code
PM1520WG	20



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