



PM3401A

-3.0A -30V P-CHANNEL MOSFET

Features

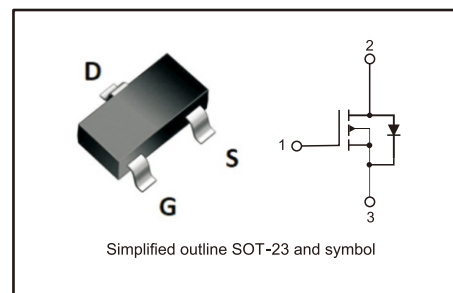
- $V_{DS} = -30V$
- $R_{DS(ON)} \leq 90m\Omega @ V_{GS} = -10V$
- $R_{DS(ON)} \leq 110m\Omega @ V_{GS} = -4.5V$

Applications

- Power Management In Note Book.
- Portable Equipment.
- Battery Powered System.
- Load Swith.

PINNING

PIN	DESCRIPTION
1	GATE
2	DRAIN
3	SOURCE



Absolute Maximum Ratings (TA=25°C, unless otherwise specified)

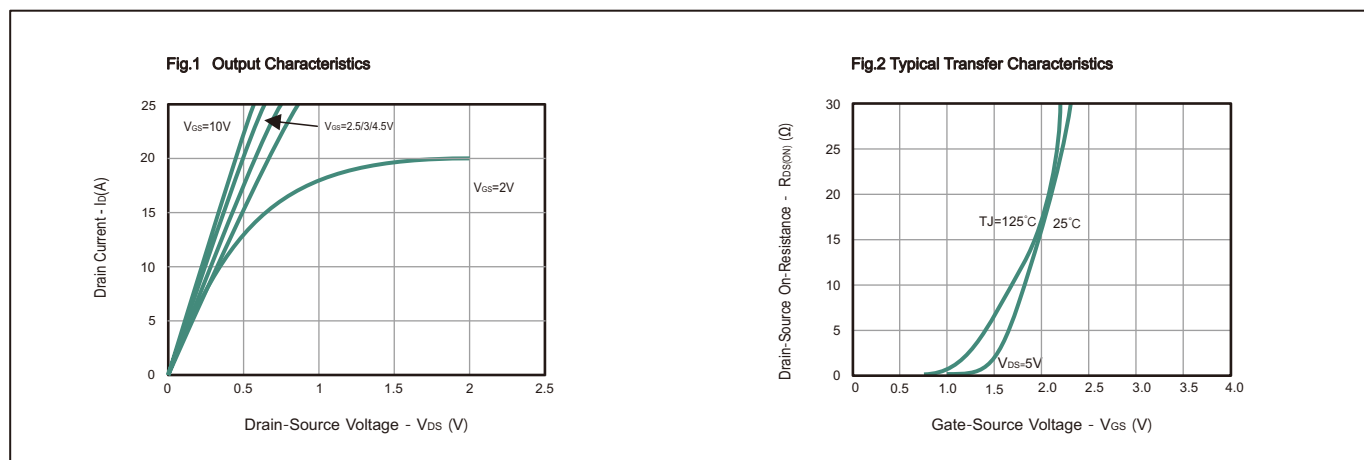
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current Tamb=25°C	I_D	-3	A
Pulsed Drain Current(Note1)	I_{DM}	-16	A
Power Dissipation	P_D	1.4	W
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	1.25	°C/W
Operation Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C



Electrical Characteristics(TA=25°C, unless otherwise specified)

Parameter	Symbols	Test Conditions	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	$B_{V_{DS}}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
Gate- Source Leakage Current	Forward	$V_{GS} = 12V, V_{DS} = 0V$			100	nA
	Reverse	$V_{GS} = -12V, V_{DS} = 0V$			-100	
On Characteristics						
Gate Threshold Voltage	$V_{th(GS)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.5	-0.85	-1.3	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -3.0A$		70	90	$m\Omega$
		$V_{GS} = -4.5V, I_D = -2.0A$		85	110	
Drain-Source Diode Forward Voltage	V_{DS}	$I_S = -3.0A, V_{GS} = 0V$			-1.4	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -15V,$ $V_{GS} = 0V,$ $f = 1.0MHz$		1020		pF
Output Capacitance	C_{oss}			60		
Reverse Transfer Capacitance	C_{rss}			48		
Switching Characteristics						
Total Gate Charge	Q_G	$V_{DS} = -15V,$ $V_{GS} = -4.5V,$ $I_D = -5.3A$		9.2		nC
Gate-Source Charge	Q_{GS}			3.2		
Gate-Drain Charge	Q_{GD}			2.3		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = -15V, V_{GS} = -10V,$ $R_L = 3.6\Omega, R_{GEN} = 6\Omega$		41		ns
Turn-On Rise Time	t_r			27		
Turn-Off Delay Time	$t_{d(off)}$			57		
Turn-Off Fall Time	t_f			6		

Typical Characteristics





Typical Characteristics

Fig.3 Drain-Source On-Resistance vs. Drain Current

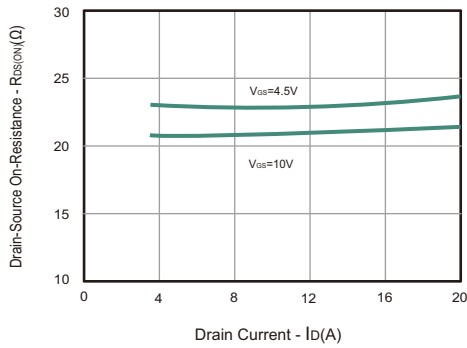


Fig.4 Body Diode Characteristics

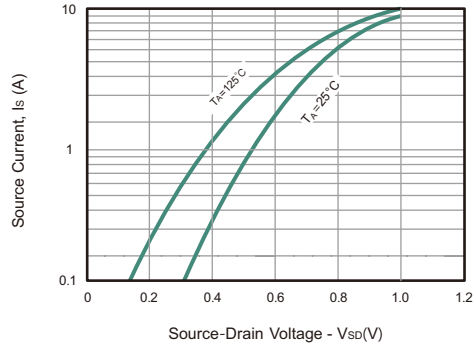


Fig.5 Gate Charge Characteristics

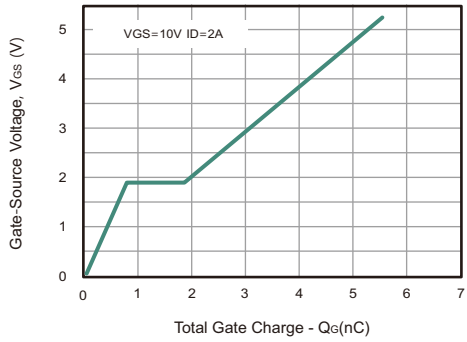


Fig.6 Capacitance Characteristics

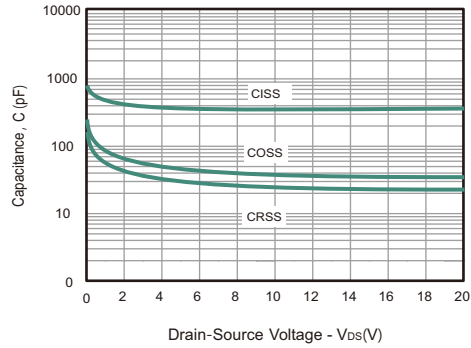


Fig.7 Breakdown Voltage vs. Junction Temperature

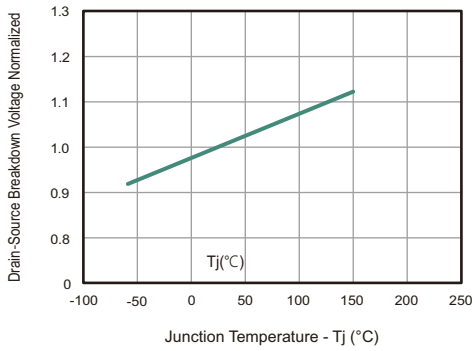


Fig.8 Normalized on Resistance vs. Junction Temperature

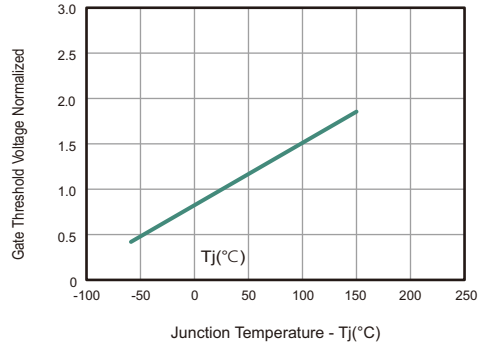


Fig.9 Safe Operating Area

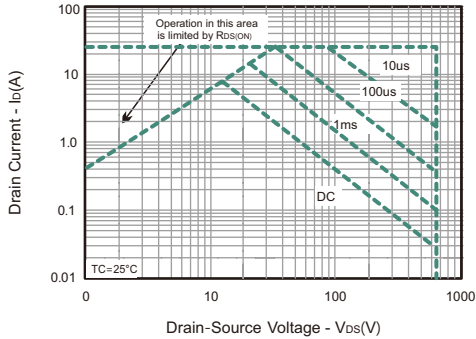
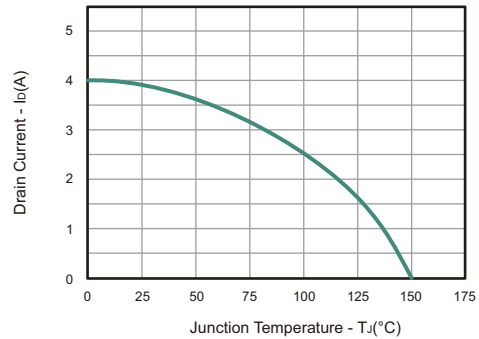
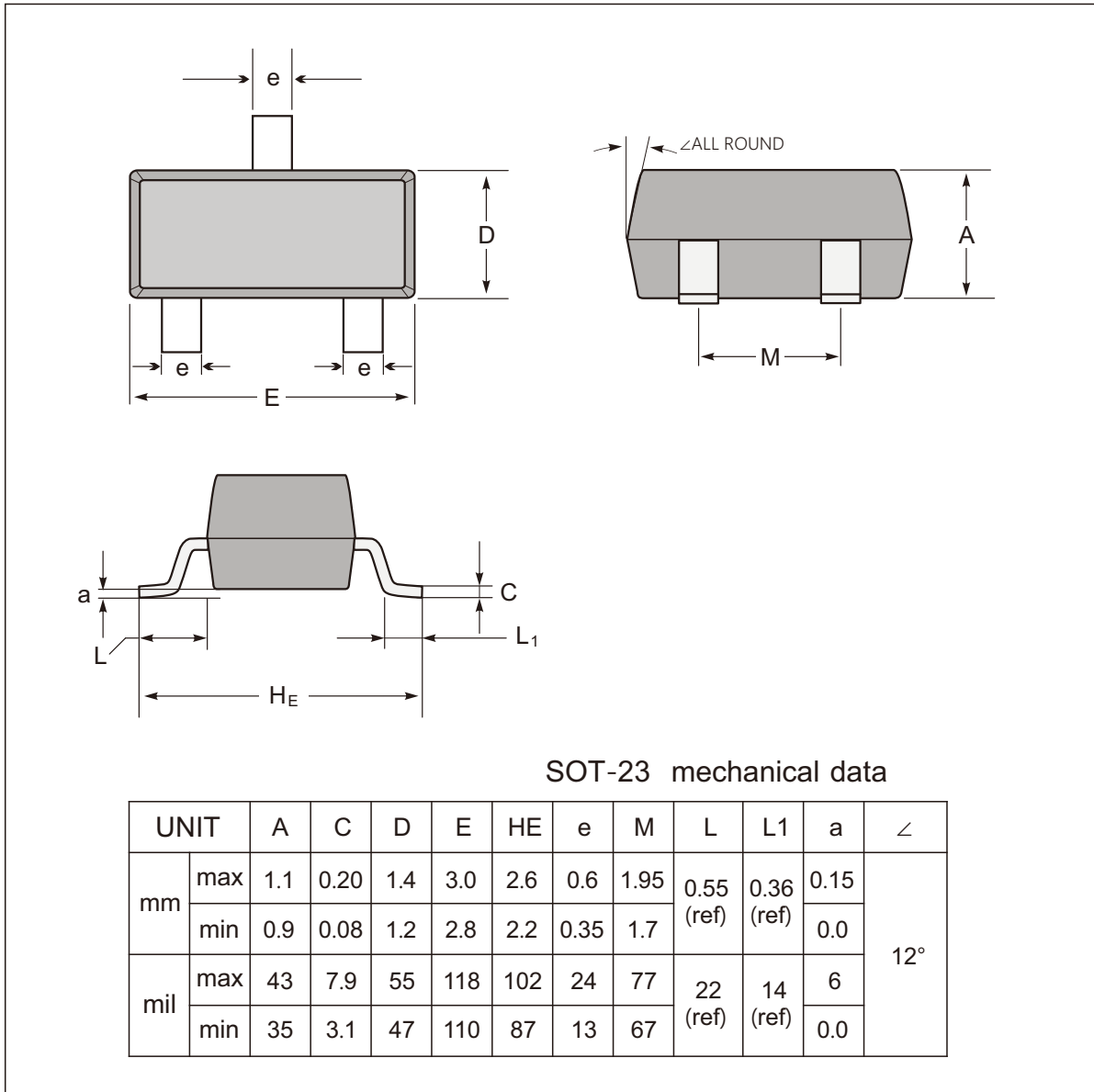


Fig.10 Drain Current vs. Ambient Temperature

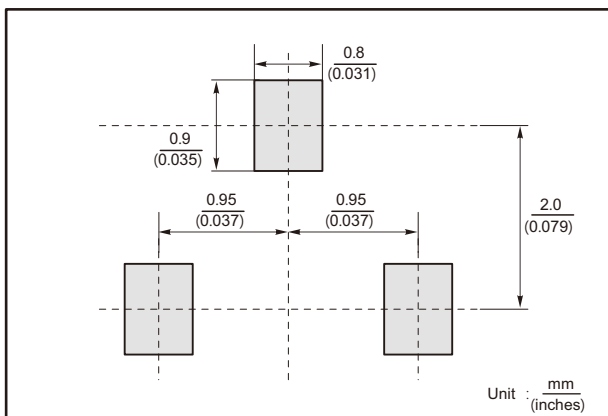




SOT-23 Package Outline Dimensions



The recommended mounting pad size



Marking

Type number	Marking code
PM3401AWD	3401A



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