



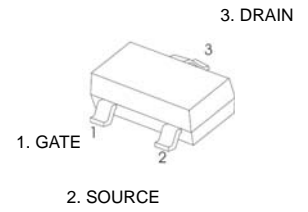
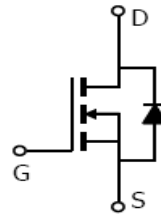
DESCRIPTION

The LX3420M uses advanced trench technology to provide excellent $R_{DS(on)}$. This device is suitable for use as a uni-directional or bi-directional load switch.

MARKING

- MARKING:R20

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20 V	24mΩ@10V	6A
	27mΩ@4.5V	
	42mΩ@2.5V	
	74mΩ@1.8V	



SOT-23

Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	6	A
Pulsed Drain Current	I_{DM}	25	
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}C$



Ta =25 °C unless otherwise specified

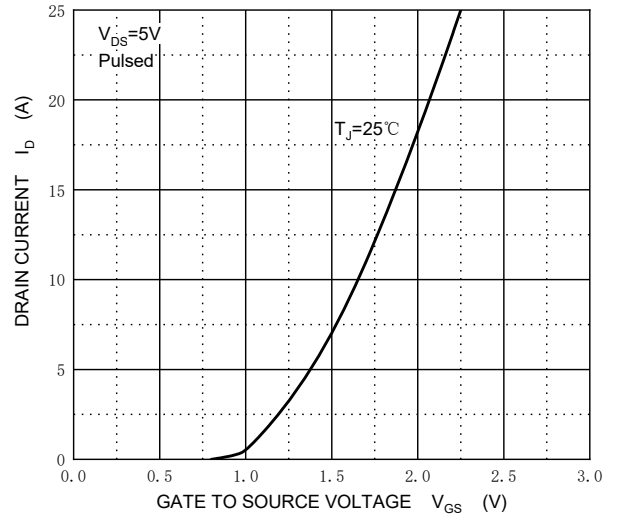
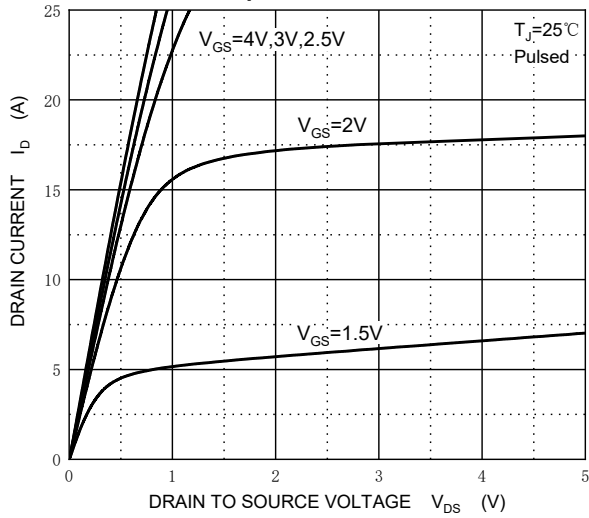
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	$V_{(BR) DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V, T_J = 25^\circ C$			1	μA
		$V_{DS} = 16V, V_{GS} = 0V, T_J = 125^\circ C$			1	mA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
On characteristics						
Drain-source on-resistance ^②	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 6A$		19	24	m Ω
		$V_{GS} = 4.5V, I_D = 5A$		22	27	m Ω
		$V_{GS} = 2.5V, I_D = 4A$		27	42	m Ω
		$V_{GS} = 1.8V, I_D = 2A$		38	74	m Ω
Forward tran. conductance	g_{FS}	$V_{DS} = 5V, I_D = 3.8A$	4			S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.7	1.0	V
Dynamic Characteristics ^③						
Input capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		630		pF
Output capacitance	C_{oss}			164		pF
Reverse transfer capacitance	C_{rss}			137		pF
Gate resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		1.5		Ω
Switching Characteristics ^③						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 15V, R_L = 2.7\Omega, R_{GEN} = 3\Omega$		5.5		ns
Turn-on rise time	t_r			14		ns
Turn-off delay time	$t_{d(off)}$			29		ns
Turn-off fall time	t_f			10.2		ns
Total Gate Charge	Q_g	$V_{DS} = 10V, I_D = 6A, V_{GS} = 4.5V$		8.8		nC
Gate-Source Charge	Q_{gs}			1		nC
Gate-Drain Charge	Q_{gd}			3.7		nC
Drain-source diode characteristics and maximum ratings						
Diode forward voltage ^②	V_{SD}	$I_S = 1A, V_{GS} = 0V$		0.75	1	V
Continuous drain-source diode forward current	I_S				6	A
Pulsed drain-source diode forward current ^①	I_{SM}				25	A

Notes:

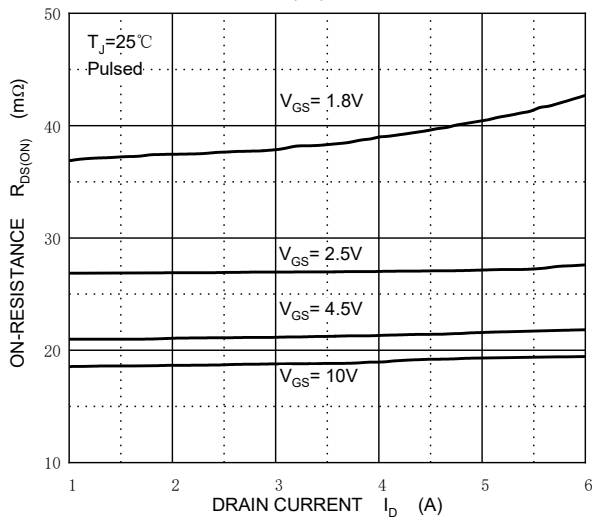
- 1.Repetitive Rating : Pulse width limited by maximum junction temperature.
- 2.Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- 3.Guaranteed by design, not subject to production testing.



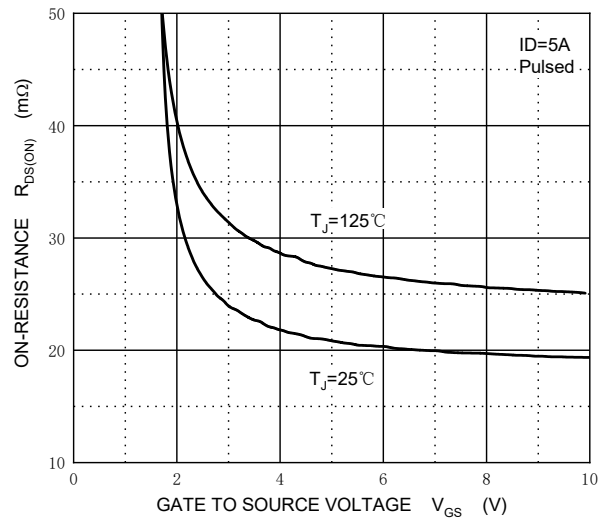
Output Characteristics



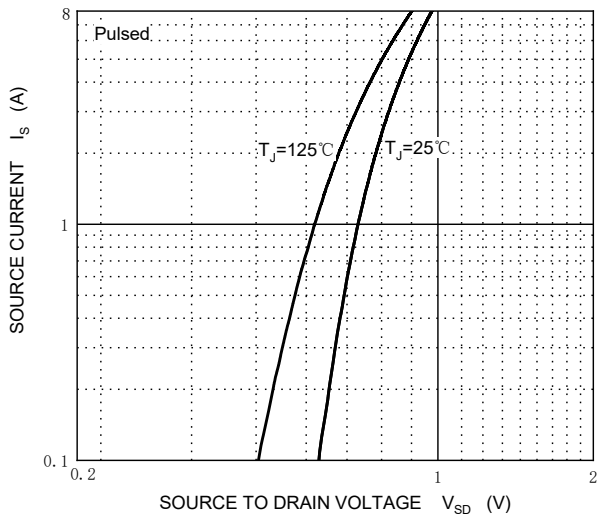
$R_{DS(ON)}$ — I_D



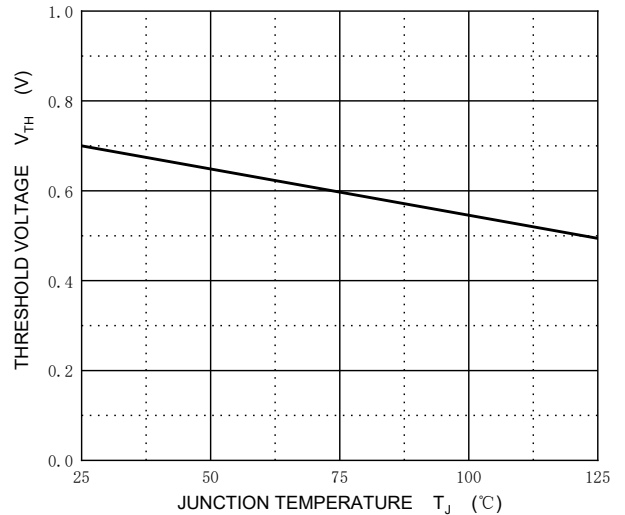
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



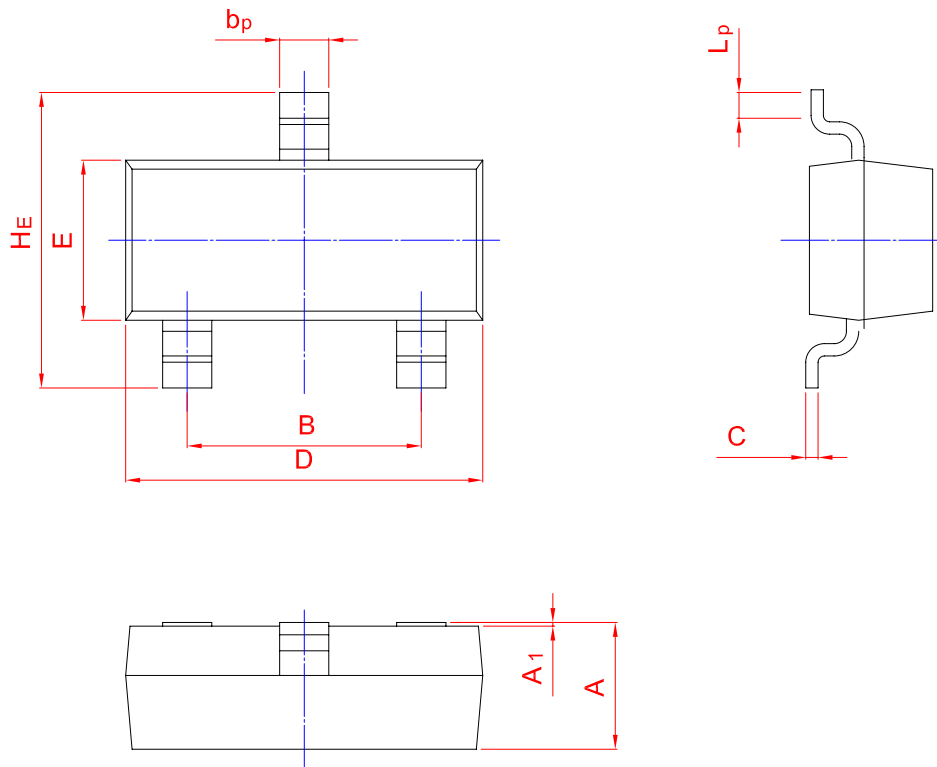
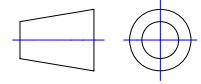
Threshold Voltage



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20