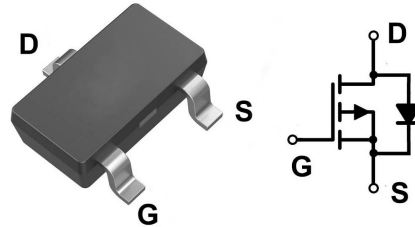


Features

- $V_{DS}=-16V$
- $I_D=-8A$
- $R_{DS(ON)} @V_{GS}=-4.5V, TYP=15m\Omega$
- $R_{DS(ON)} @V_{GS}=-2.5V, TYP=21m\Omega$
- High Power and current handling capability
- Lead free product is acquired
- Surface Mount Package

Package

SOT23-3L



General Description

The LX8P16B uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as $-0.7V$ (type) and $-2.8V$ drive. This device is suitable for use as a load switch or in PWM applications.

Application

- PWM applications
- Load switch
- Power management

Ordering information

Order code	Package	Base qty	Delivery mode
LX8P16B	SOT-23-3L	3K	Tape and reel

Absolute Maximum Ratings (@ $T_A=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
BV_{DS}	Drain-Source Voltage	-16	V
V_{GS}	Gate-Source Voltage	± 10	V
I_D	Continuous Drain Current(1)	$T_C=25^\circ C$	-8
		$T_C=70^\circ C$	-4.0
I_{DM}	Pulsed Drain Current	-20	A
P_D	Maximum Power Dissipation	$T_C=25^\circ C$	1.6
		$T_C=100^\circ C$	1.2
T_J, T_{stg}	Junction and Storage Temperature Range	-55~150	$^\circ C$

Absolute Maximum Ratings (@ $T_A=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient(1)	70	$^\circ C/W$



Electrical Characteristics @TA=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
BV_{DS}	Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = -250\mu A$	-16	-18	-	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-0.7	-1.0	V
I_{DSS}	Drain CutOff Current	$V_{DS} = -12V, V_{GS} = 0V$	-	-	-1	μA
I_{GSS}	Gate Body Leakage	$V_{GS} = \pm 12V, V_{DS} = 0V$	-	-	± 100	nA
On Characteristics						
$R_{DS(on)}$	Drain-Source On-State Resistance	$V_{GS} = -4.5V, I_D = -7A$	-	15	22	m Ω
		$V_{GS} = -2.5V, I_D = -5A$	-	21	38	
g_{fs}	Forward Transconductance	$V_{DS} = -10V, I_D = -5A$	8.0	-	-	S
I_S	Max. Diode Forward Current	-	-	-	-5	A
V_{SD}	SourceDrain Diode Forward Voltage	$I_S = -5A, V_{GS} = 0V$	-	-	-1.2	V
Dynamic Characteristics						
C_{iss}	Input Capacitance	$V_{DS} = -10V,$ $V_{GS} = 0V,$ $f = 1.0MHz$	-	900	-	pF
C_{oss}	Output Capacitance		-	180	-	
C_{riss}	Reverse Transfer Capacitance		-	160	-	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	$V_{DS} = -10V,$ $V_{GS} = -4.5V,$ $R_{GEN} = 6\Omega$	-	15	-	ns
t_r	Turn-On Rise Time		-	35	-	
$t_{d(off)}$	Turn-Off Delay Time		-	30	-	
t_f	Turn-Off Fall Time		-	10	-	
Q_g	Total Gate Charge	$V_{DS} = -4.5V$ $I_D = -5A,$ $V_{GS} = -10V$	-	10	-	nC
Q_{gs}	Gate-Source Charge		-	2	-	
Q_{gd}	Gate-Drain Charge		-	3	-	

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

Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1 : On-Region Characteristics

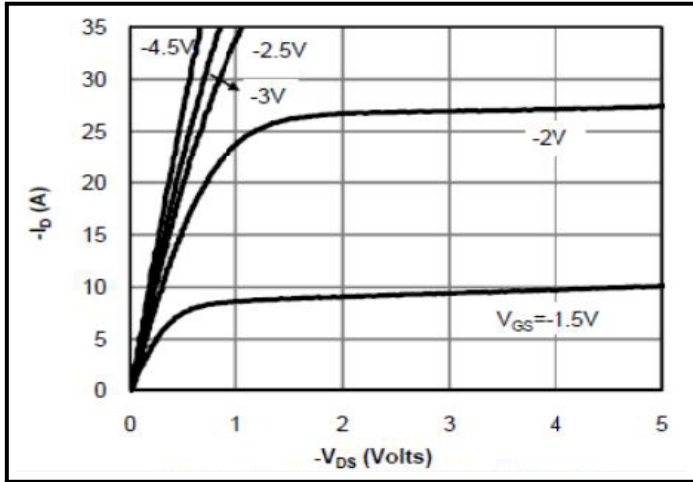


Figure 3 : On-Resistance vs. Drain Current and Gate Voltage

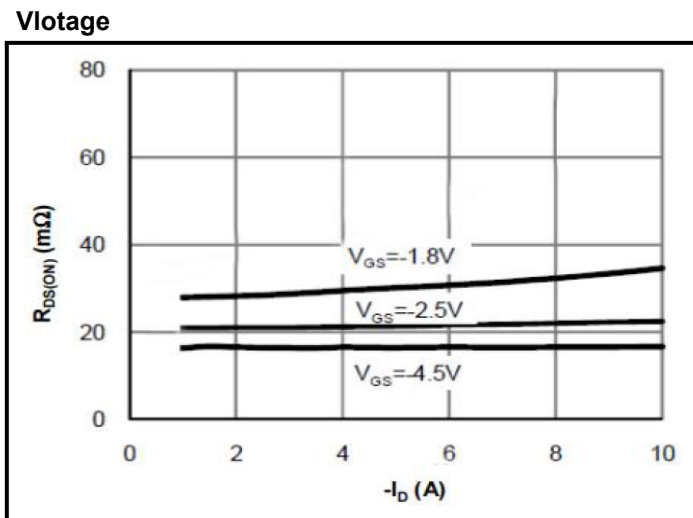


Figure 2 : Transfer Characteristics

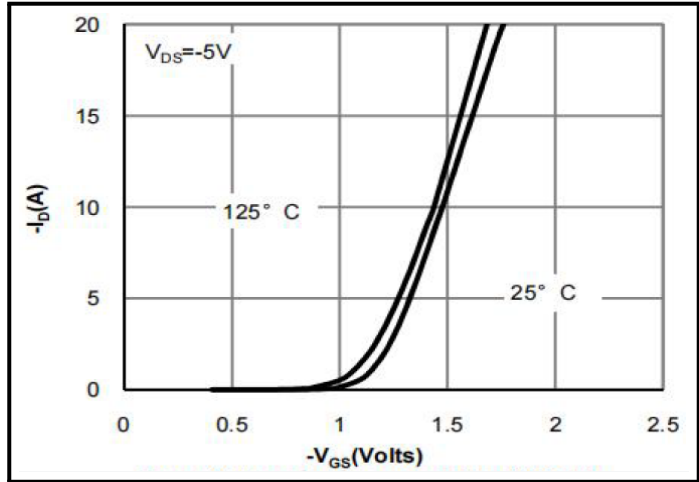
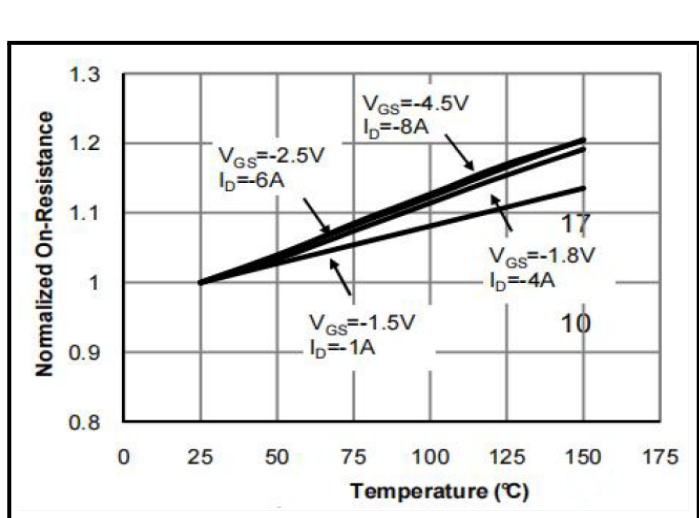
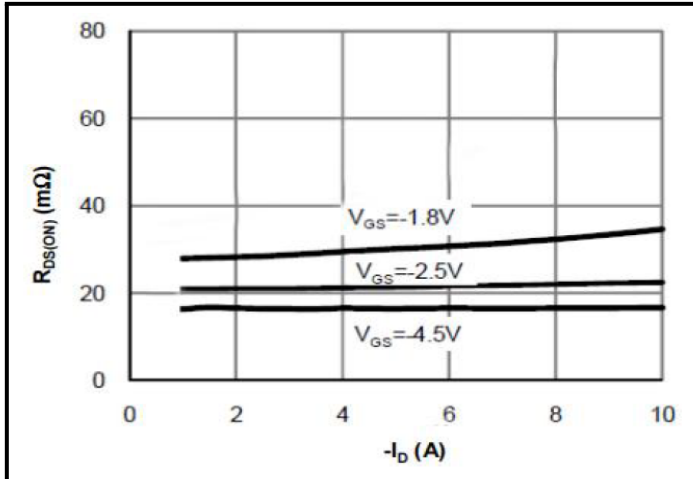


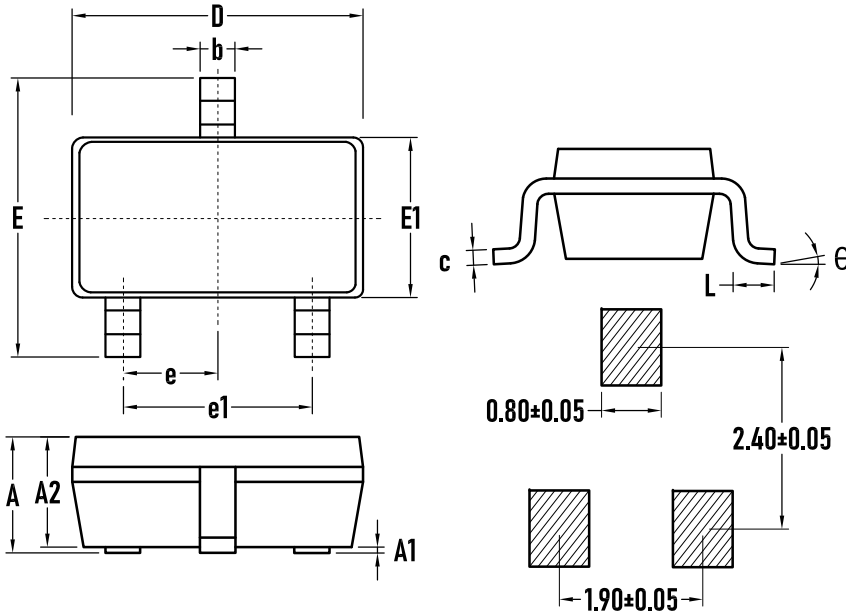
Figure 4 : On-Resistance vs. Junction Temperature



Vlotage



Outline Drawing - SOT23-3L



SYMBOL	MILLIMETER		Inches	
	MIN.	MAX.	MIN.	MAX.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°