

Silicon P-Channel MOSFET

Applications

Notebook PCs
 Cellular and portable phones
 ON-board power supplies
 Li-ion battery systems

Features

Low on-state resistance: $R_{ds(on)}=0.3 \Omega$ ($V_{gs}=-4.5V$)
 $R_{ds(on)}=0.5 \Omega$ ($V_{gs}=-2.5V$)

Ultra high-speed switching
 Gate protect diode built-in
 Operational voltage: $-2.5V$
 High density mounting: SOT-23
 we declare that the material of product
 compliance with RoHS requirements.

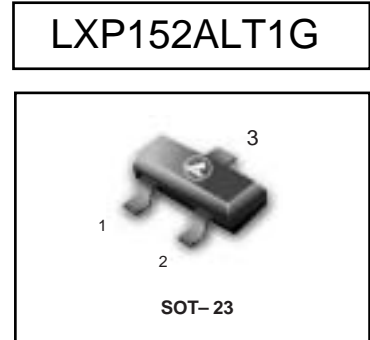
ORDERING INFORMATION

Device	Marking	Shipping
LXP152ALT1G	XP	3000/Tape & Reel
LXP152ALT3G	XP	10,000/Tape & Reel

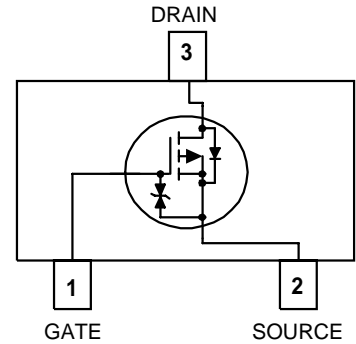
Absolute Maximum Ratings $T_a=25^\circ C$

PARAMETER	SYMBOL	RATINGS	UNITS
Drain - Source Voltage	V_{dss}	-20	V
Gate - Source Voltage	V_{gss}	± 12	V
Drain Current (DC)	I_d	-0.7	A
Drain Current (Pulse)	I_{dp}	-2.8	A
Reverse Drain Current	I_{dr}	-0.7	A
Continuous Channel Power Dissipation (note)	P_d	0.5	W
Channel Temperature	T_{ch}	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to 150	$^\circ C$

(note) : When implemented on a ceramic PCB



Equivalent circuit



LXP152ALT1G

Electrical Characteristics
DC characteristics

Ta=25°C

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Drain Cut-off Current	Idss	Vds = - 20 , Vgs = 0V			- 10	μA
Gate-Source Leakage Current	Igss	Vgs = ± 12 , Vds = 0V			± 10	μA
Gate-Source Cut-off Voltage	Vgs (off)	Id = -1mA , Vds = - 10V	- 0.5		- 1.2	V
Drain-Source On-state Resistance (note)	Rds (on)	Id = - 0.4A , Vgs = - 4.5V		0.23	0.36	Ω
		Id = - 0.4A , Vgs = - 2.5V		0.37	0.5	Ω
Forward Transfer Admittance (note)	Yfs	Id = - 0.4A , Vds = - 10V		1.5		S
Body Drain Diode Forward Voltage	Vf	If = - 0.7A , Vgs = 0V		-0.8	- 1.1	V

(note) : Effective during pulse test.

Dynamic characteristics

Ta=25°C

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Capacitance	Ciss	Vds = - 10V , Vgs = 0V f = 1 MHz		180		pF
Output Capacitance	Coss			120		pF
Feedback Capacitance	Crss			60		pF

Switching characteristics

Ta=25°C

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Turn-on Delay Time	td (on)	Vgs = - 5V , Id = - 0.4A Vdd = - 10V		5		ns
Rise Time	tr			20		ns
Turn-off Delay Time	td (off)			55		ns
Fall Time	tf			70		ns

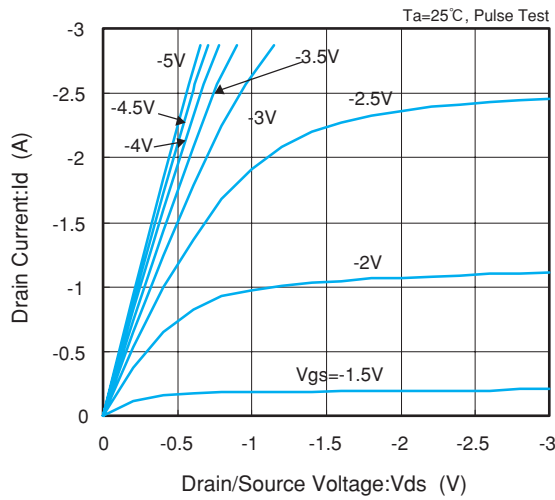
Thermal characteristics

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Thermal Resistance (channel - surroundings)	Rth (ch - a)	Implement on a ceramic PCB		250		°C / W

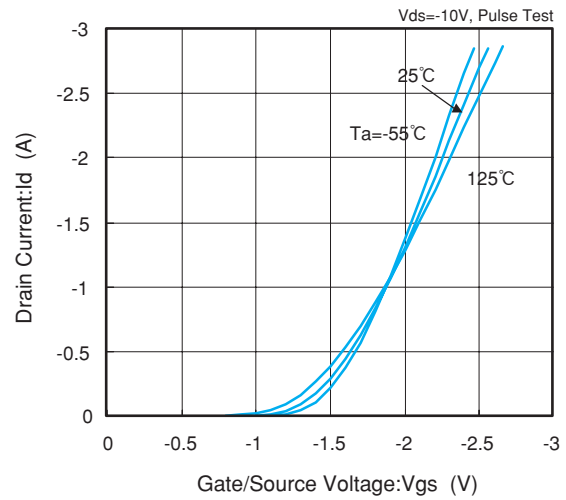
Electrical Characteristics

LXP152ALT1G

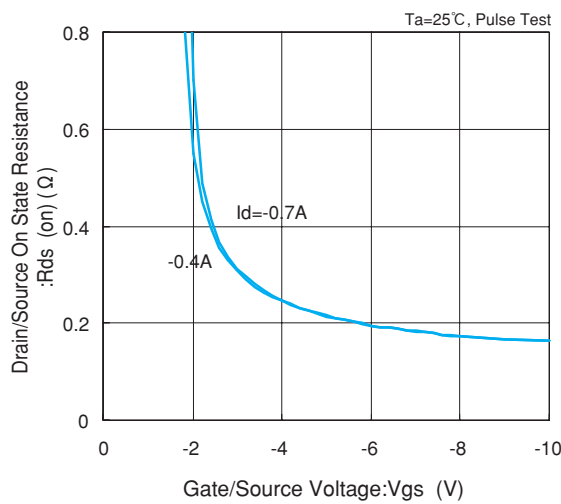
Drain Current vs. Drain/Source Voltage



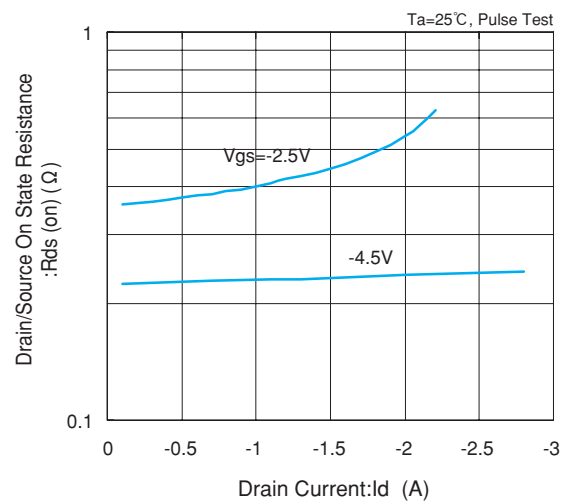
Drain Current vs. Gate/Source Voltage



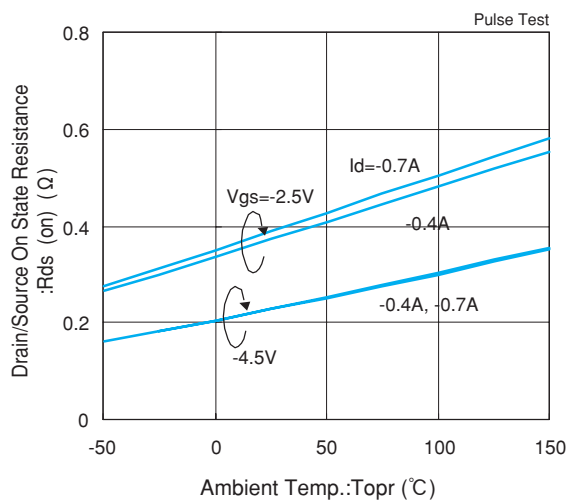
Drain/Source On State Resistance vs. Gate/Source Voltage



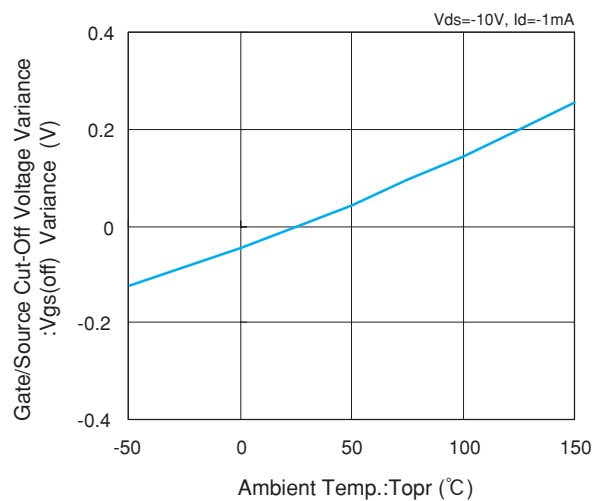
Drain/Source On State Resistance vs. Drain Current



Drain/Source On State Resistance vs. Ambient Temperature

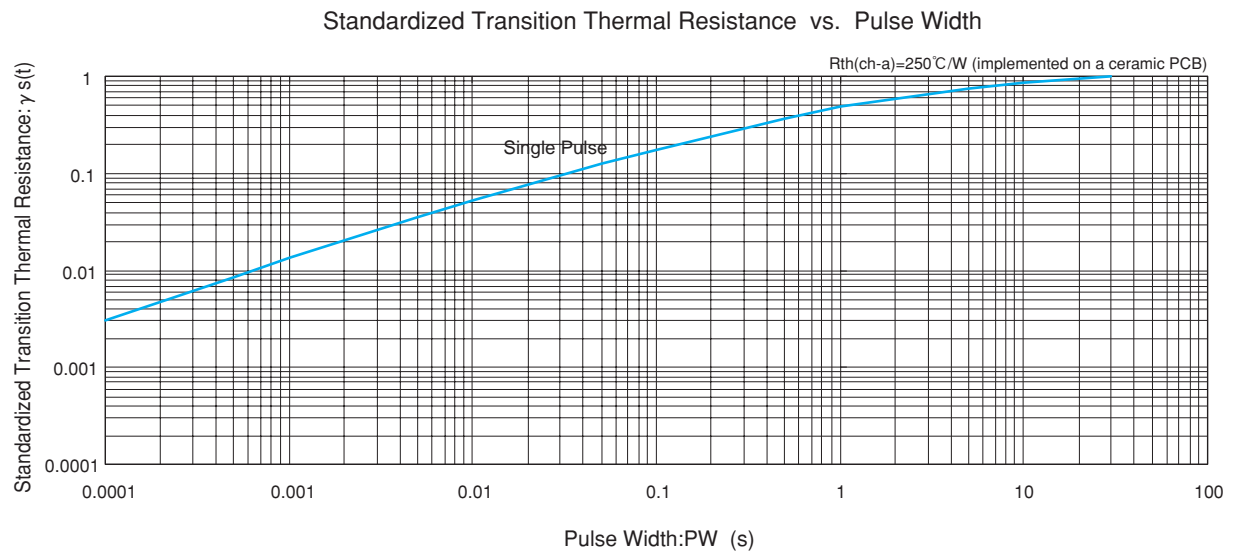
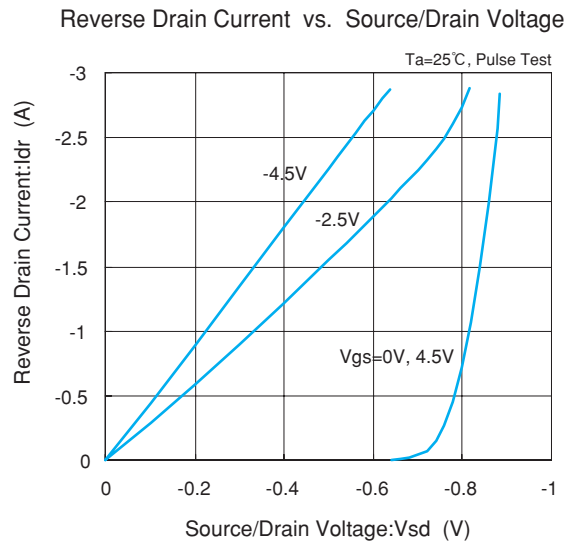
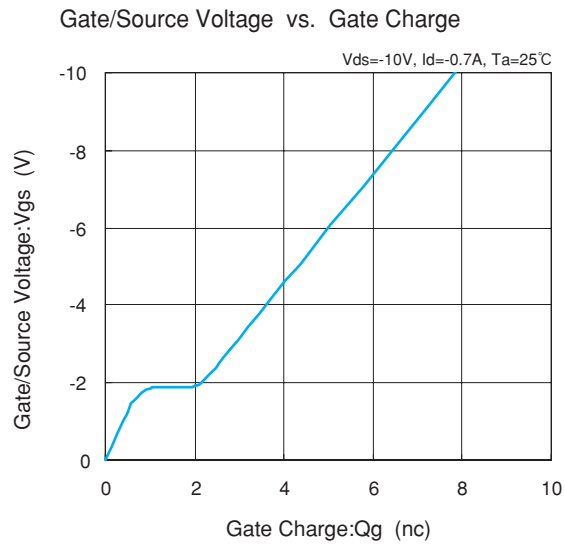
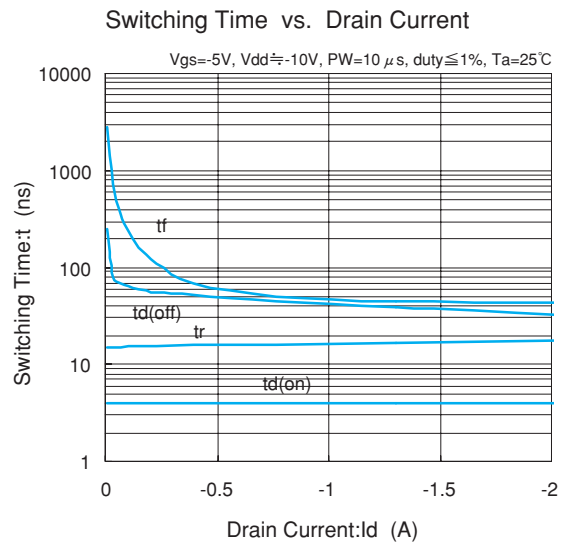
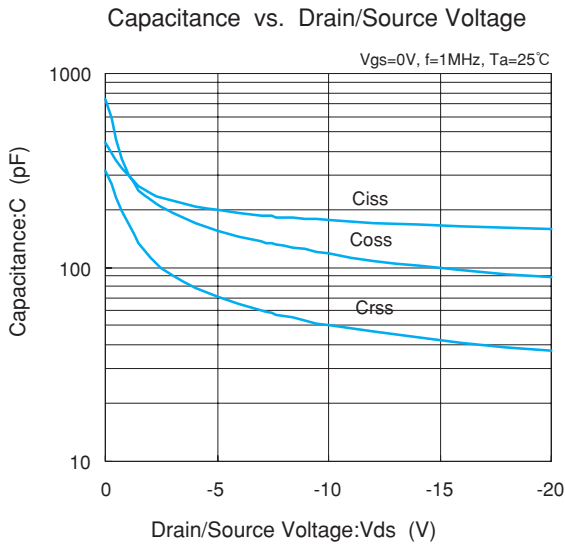


Gate/Source Cut off Voltage Variance vs. Ambient Temperature



LXP152ALT1G

Electrical Characteristics

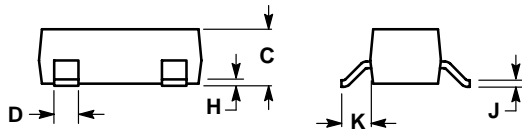
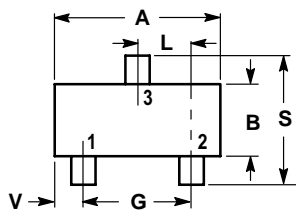


LXP152ALT1G

SOT-23

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

