P-Channel 60V Trench MOSFET

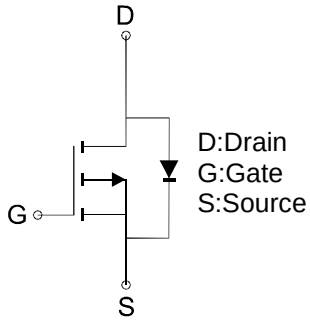
B_{VDSS}=-60V ,
$R_{DS(ON)}$ ≦75mΩ@V_{GS}=-10V
$R_{DS(ON)}$ ≦100mΩ@V_{GS}=-4.5V
I_D=-22A

General Description

The LTP22P06 is the P-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance.

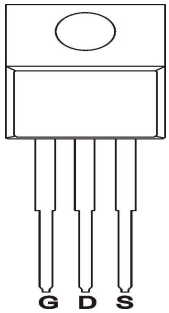
Features

- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Marking: LTP22P06
- Qualified to MIL-STD-750E
- Weight: 1.9g
- RoHS Compliant



P-Channel MOSFET

(TO-220AB)
Top View



Application

- Power Management in Notebook
- Load Switch
- DC/DC Converter

Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

PARAMETER		SYMBOL	VALUE	UNIT
Drain-Source Voltage		V_{DSS}	-60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C=25℃	I_D	-22	A
	T_C=70℃		-18	
Pulsed Drain Current		I_{DM}	-88	A
Power Dissipation	T_C=25℃	P_D	79	W
	T_C=70℃		55	
Operating Junction and Storage Temperature Range		TJ, T_{stg}	-55 to175	℃

Thermal Characteristics

PARAMETER	SYMBOL	TYP	UNIT
Thermal Resistance Junction-to-Case[1]	RthJc	1.9	℃ /W

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Electrical Characteristics (T_A =25℃ Unless Otherwise Specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN	TYP	MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=-250uA	BV_{DSS}	-60	--	--	V
Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250uA	$V_{GS(th)}$	-1	--	-3	V
Gate-Source Leakage	V_{DS}=0V, V_{GS}=±20V	I_{GSS}	--	--	±100	nA
Zero Gate Voltage Drain Current	V_{DS}=-40V,V_{GS}=0V	I_{DSS}	--	--	-1	uA
Drain-Source On-Resistance[2]	V_{GS}=-10V,I_D=-8.5A	$R_{DS(ON)}$	--	62	75	mΩ
	V_{GS}=-4.5V,I_D=-6.8A		--	80	100	
DYNAMIC						
Total Gate Charge	V_{GS}=-10V,V_{DS}=-48V,I_D=-17A	Q_g	--	25	--	nC
Total Gate Charge	V_{GS}=-4.5V,V_{DS}=-48V,I_D=-17A	Q_g	--	13	--	
Gate-Source Charge		Q_{gs}	--	5.6	--	
Gate-Drain Charge		Q_{gd}	--	6.5	--	
Input Capacitance	V_{GS}=0V,V_{DS}=-15V, F=1MHz	C_{iss}	--	976	--	pF
Output Capacitance		C_{oss}	--	370	--	
Reverse Transfer Capacitance		C_{rss}	--	32	--	
Turn-On Delay Time	V_{GS} = -10V, V_{DS} =-30V, R_G = 25Ω, I_D=-8.5A	$t_{d(on)}$	--	44	--	nS
Turn-On Rise Time		t_r	--	22	--	
Turn-Off Delay Time		$t_{d(off)}$	--	108	--	
Turn-Off Fall Time		t_f	--	28	--	
Source-Drain Diode						
Diode Forward voltage	I_{SD}=-8.5A,V_{GS}=0V	V_{SD}	--	-0.9	-1.2	V

Notes:

(1).The device mounted on 1in^2 FR4 board with 2 oz copper

(2). Pulse test: Pulse width≦300us, duty cycle≦2%, guaranteed by design, not subject to production testing.

(3). LiteON Semiconductor reserves the right to improve product design, functions and reliability without notice

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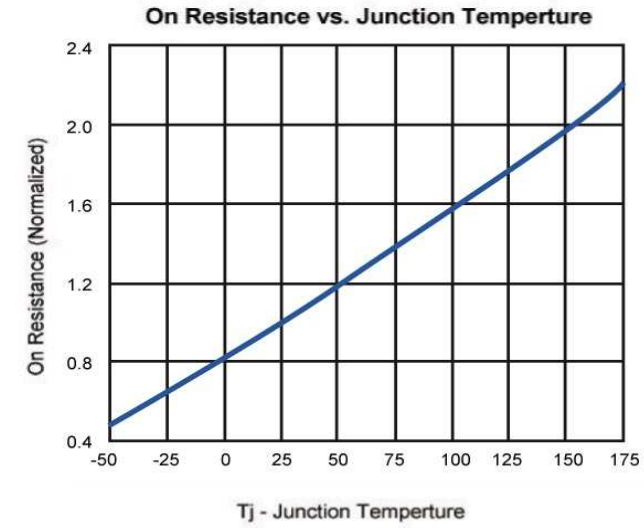

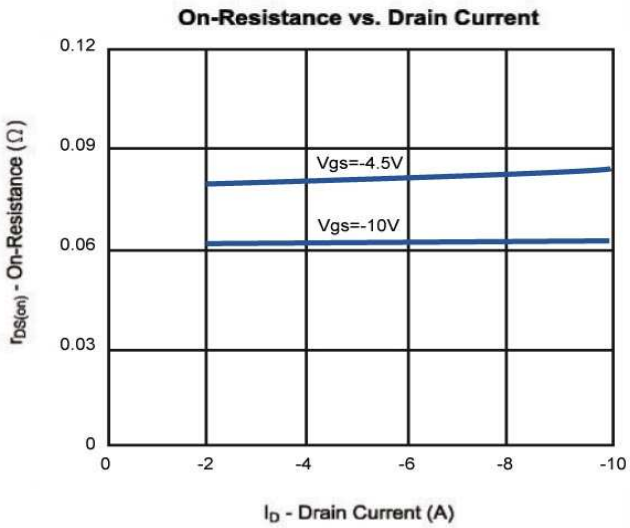

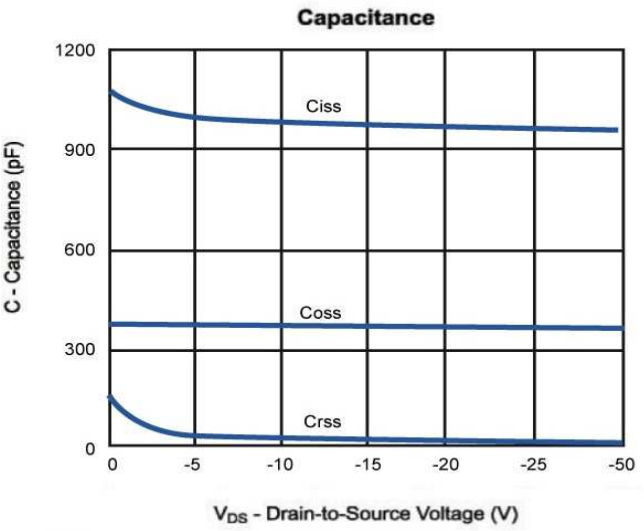

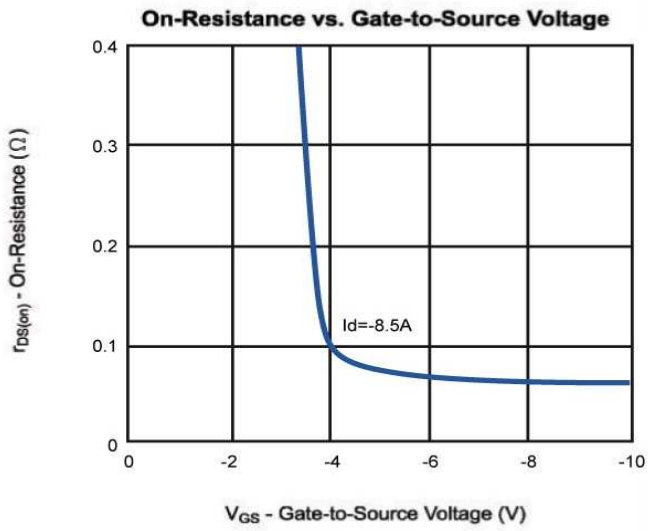

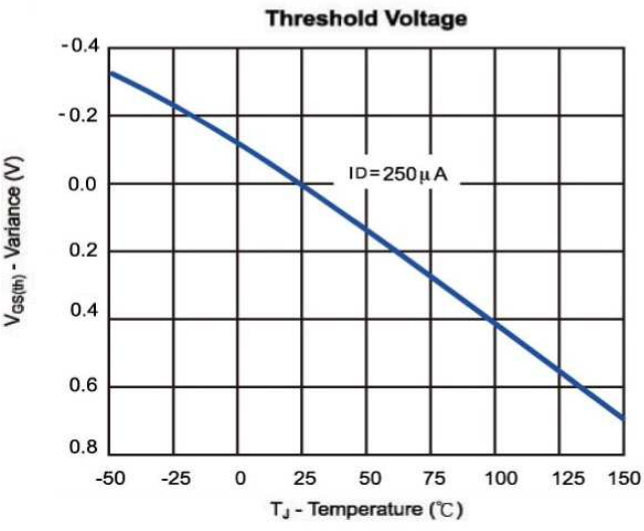

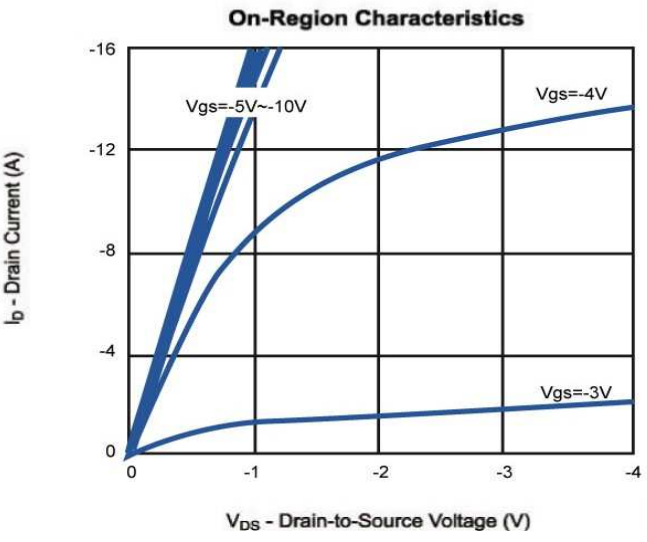

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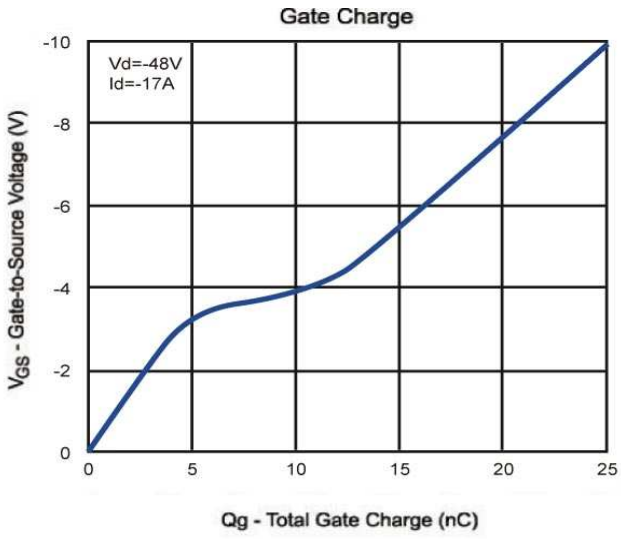

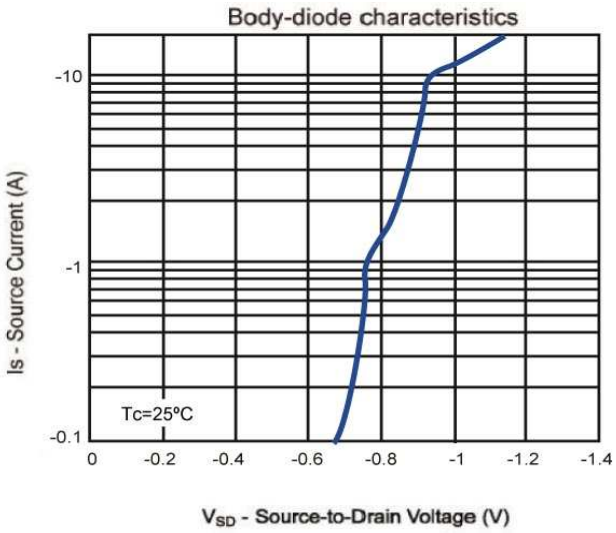

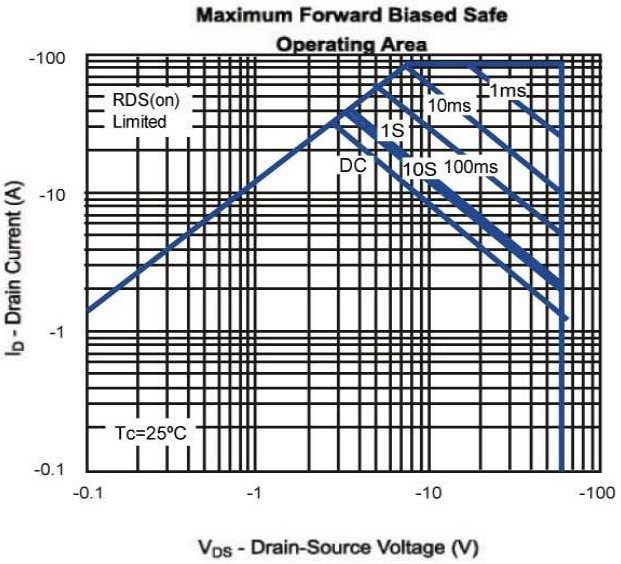

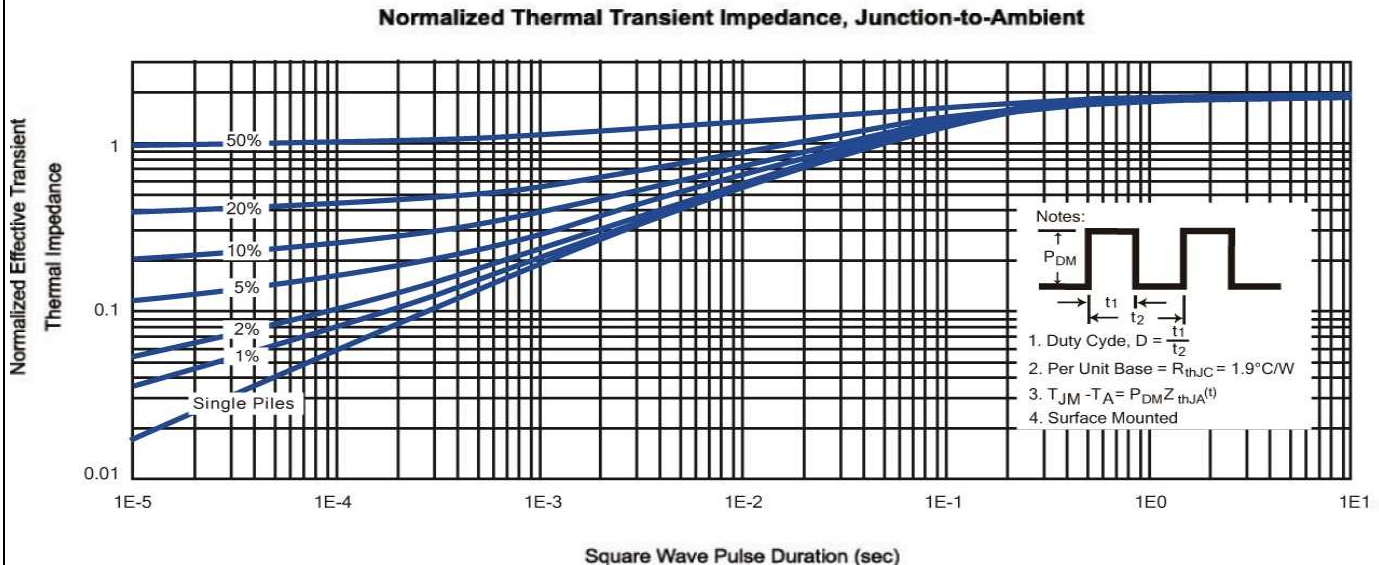

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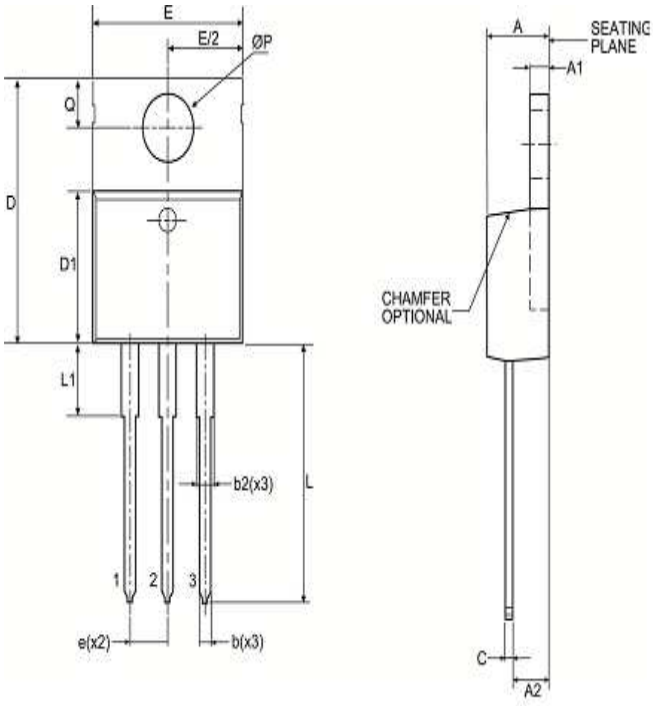
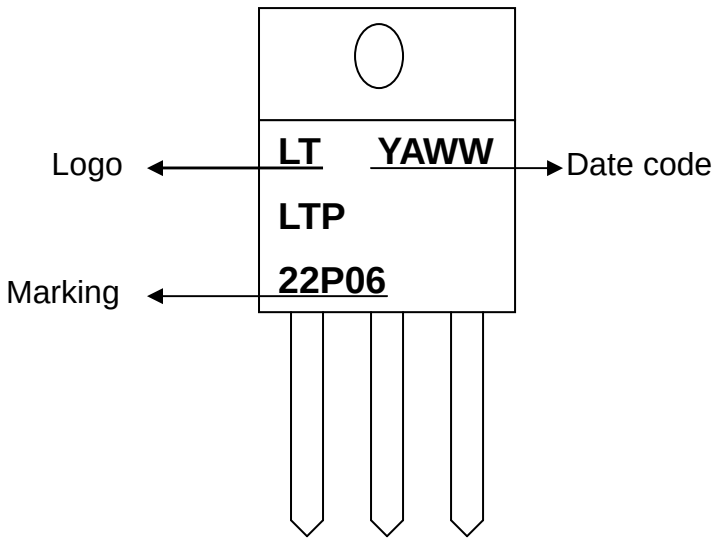
Package Outline Dimension

TO-220AB



TO-220AB		
DIM	MIN	MAX
A	3.50	4.90
A1	1.00	1.40
A2	2.00	3.00
b	0.70	1.40
c	0.35	0.65
D	14.00	16.50
D1	8.30	9.50
E	9.60	10.70
e	2.54 BSC	
L	12.50	15.00
Φ P	3.60 TYP	
Q	2.50	3.10
b2	1.10	1.80
L1	2.40	3.20
All Dimensions in millimeter		

Marking information



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