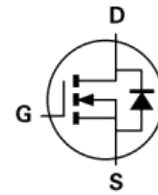


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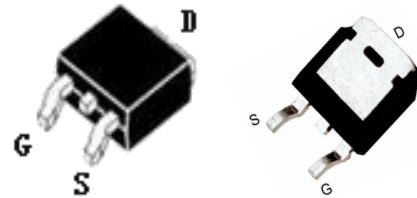
MAIN CHARACTERISTICS

I_D	50A
V_{DSS}	60V
$R_{DS(on)-typ}$ (@ $V_{GS}=10V$)	14m Ω



FEATURES

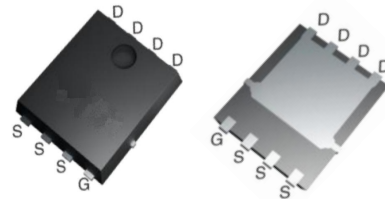
- Fast Switching
- Low ON Resistance
- Low Gate Charge
- 100% Single Pulse avalanche energy Test



LT50N06D/TO-252

APPLICATIONS

- Power switch circuit of adaptor and charger.



LT50N06G/PDFN 5*6

MECHANICAL DATA

- Case: Molded plastic
- Mounting Position: Any
- Molded Plastic: UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106

Product specification classification

Part Number	Package	Mode Name	Pack
LT50N06D	TO-252	LT50N06D	Tape
LT50N06G	PDFN5*6	LT50N06G	Tape

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Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continue Drain Current	I_D	50	A
Pulsed Drain Current (Note1)	I_{DM}	100	A
Power Dissipation	P_D	45	W
Single Pulse Avalanche Energy (Note5)	E_{AS}	60	mJ
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance, Junction to	$R_{\theta JC}$	3	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62	°C/W

Electrical Characteristics at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0 V, I_D = 250 \mu A$	BV_{DSS}	60	-	-	V
Drain-Source Leakage Current	$V_{DS} = 60V, V_{GS} = 0 V$	I_{DSS}	-	-	1	μA
	$V_{DS}=60V, T_c=125^\circ C$		-	-	100	μA
Gate Leakage Current	$V_{GS} = \pm 20 V, V_{DS} = 0 V$	I_{GSS}	-	-	±100	nA
Gate-Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250 \mu A$	$V_{GS(th)}$	1	-	2	V
Drain-Source On-State Resistance (Note 3)	$V_{GS} = 10 V, I_D = 20A$	$R_{DS(on)}$	-	14	17	m Ω
	$V_{GS} = 4.5 V, I_D = 10A$	$R_{DS(on)}$	-	18	22	m Ω
Forward Transconductance	$V_{DS} = 50 V, I_D = 30 A$	g_{fs}	-	20	-	S
Input Capacitance	$V_{GS} = 0 V, V_{DS} = 15 V, f = 1 MHz$	C_{iss}	-	1714	-	pF
Output Capacitance		C_{oss}	-	120	-	pF
Reverse Transfer Capacitance		C_{rss}	-	88	-	pF
Turn-on Delay Time		$t_{d(ON)}$	-	7.5	-	ns
Rise Time	$V_{DD}=30V, V_{GS}=10V, RG=3.3, ID=15A$	t_r	-	45	-	ns
Turn-Off Delay Time		$t_{d(OFF)}$	-	33	-	ns
Fall Time		t_f	-	7.8	-	ns
Total Gate Charge	$V_{DS}=48V, V_{GS}=4.5V, ID=15A$	Q_G	-	20	-	nC
Gate to Source Charge		Q_{GS}	-	7.2	-	nC
Gate to Drain Charge		Q_{GD}	-	8.1	-	nC

Source-Drain Diode Characteristics at Ta=25°C unless otherwise specified

Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current (Note 2)		I_S	-	-	50	A
Maximun Body-Diode Pulsed Current		I_{SM}	-	-	100	A
Drain-Source Diode Forward Voltage	$I_{SD} = 30A$	V_{SD}	-	-	1.2	V
Reverse Recovery Time	$I_S = I_F, I_{SD}=20A, V_{GS} = 0 V, dI / dt = 100 A/\mu s$ (Note3)	t_{rr}	-	15	-	ns
Reverse Recovery Charge		Q_{rr}	-	12	-	μC

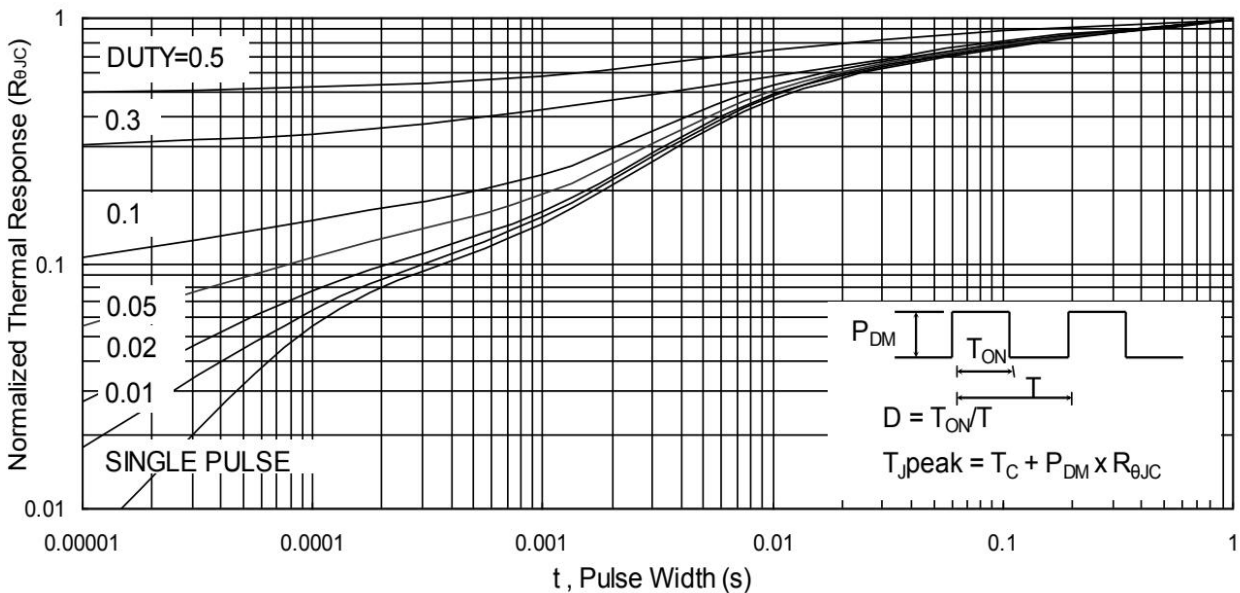
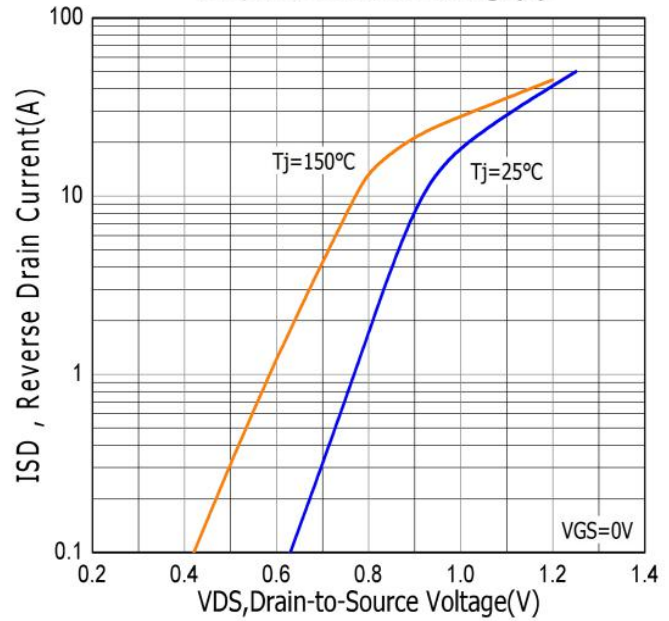
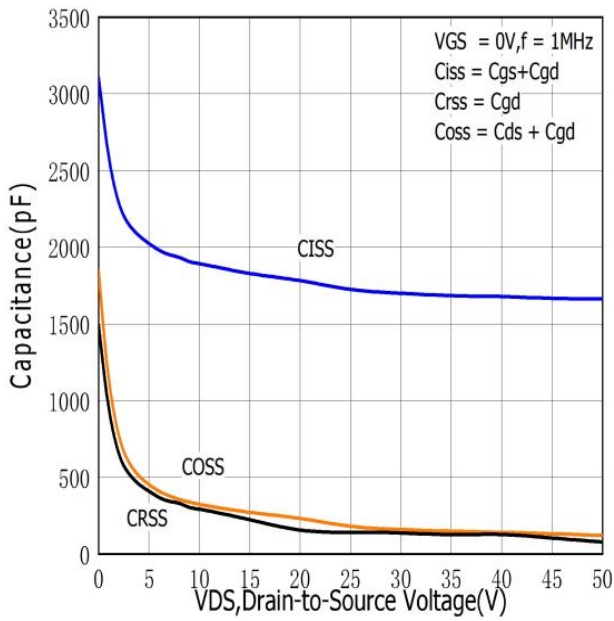
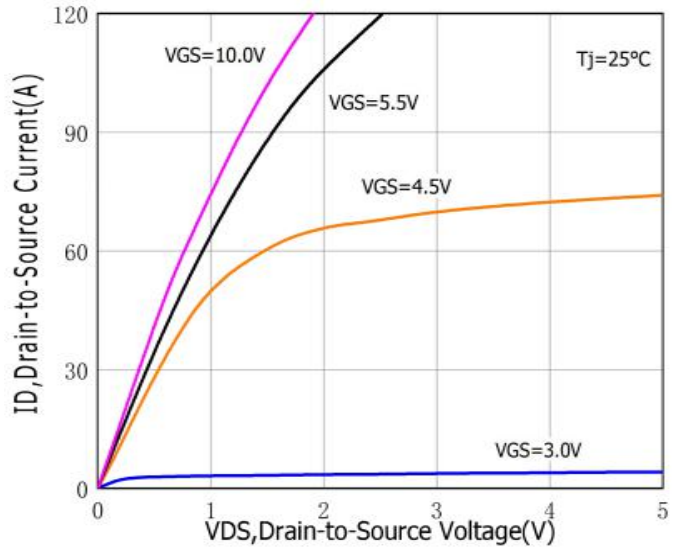
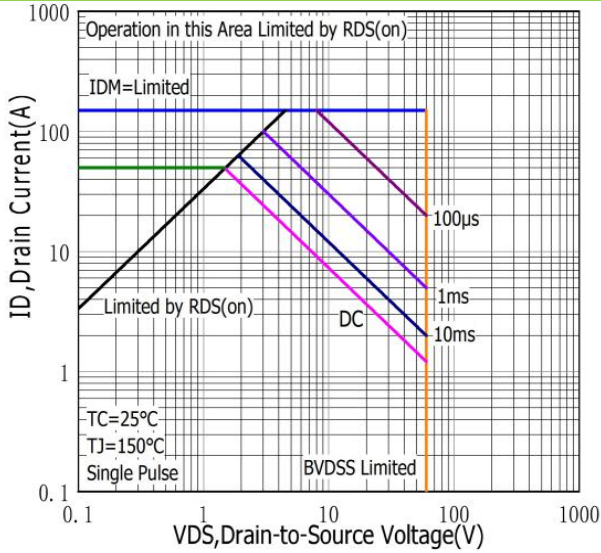
Note:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production
5. EAS condition: $T_J=25, V_{DD}= 30V, V_G=10V, L=0.1mH, R_g=25\Omega$

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RATINGS AND CHARACTERISTIC CURVES

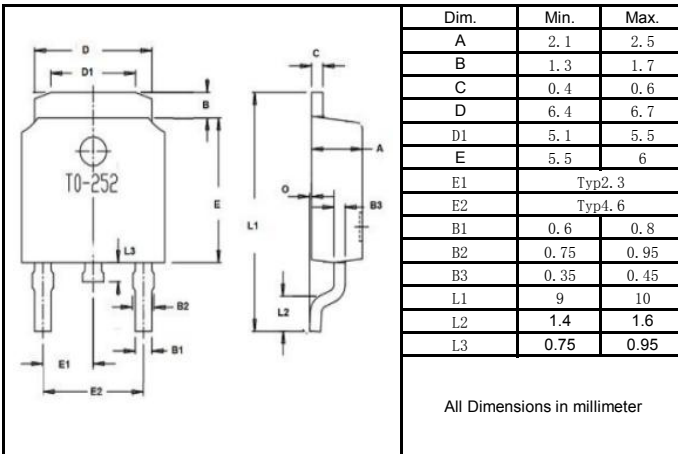


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Package Outline Dimensions millimeters

T0-252



PDFN5*6

