10A/100V 耐压 N 沟道增强型场效应管

■ 产品概述

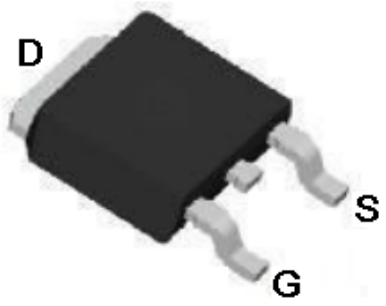
V_{DSS}	I_D	$R_{DS(ON)}$(mΩ)TYP
100V	10A	85@ VGS=10,ID=4.5A

■ 产品特点

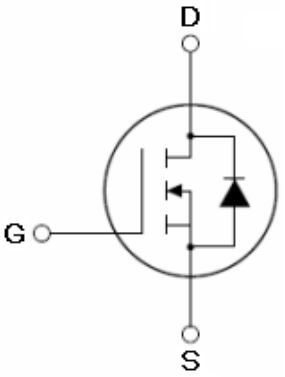
- 低导通电阻
- 高可靠性
- 驱动要求简单
- 采用 TO-252

■ 封装

- 封装示意图



To-252 Top View



Schematic Diagram

■ 订购信息

产品型号	储存温度	封装形式	Devices Per Reel
LN10N10	-55°C to +150°C	TO-252	-

■ 绝对最大额定值

（TA=25℃,除非特别说明）

参数	符号	极限值	单位
最大漏源电压	V_{DS}	100	V
最大栅源电压	V_{GS}	±20	V
结温 25℃，最大漏极电流	I_D	10	A
结温 100℃，最大漏极电流	I_D	8.5	A
最大漏极脉冲电流	I_{DM}	56	A
最大消散功耗（Pc=25℃）	P_D	28	W
工作温度范围	Tj	-55—150	℃

■ 电气特性

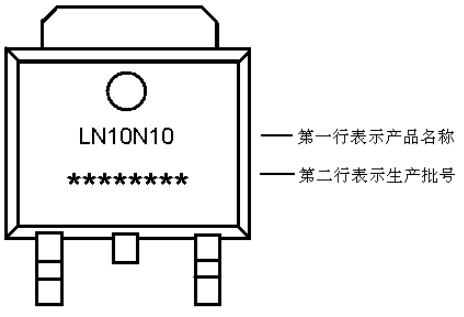
(TA=25℃ unless otherwise noted)

参数	符号	条件	最小	典型	最大	单位
关态特性						
漏源击穿电压	BVDSS	VGS=0V, ID=250μA	100			V
零栅压漏电流	IDSS	VDS=100V, VGS=0V			1	μA
栅－衬漏电流	IGSS	VDS=0V, VGS=±20V			±100	nA
开态特性						
栅极阈值电压	VGS(th)	VDS=VGS, ID=250μA	1.5	2.0	2.6	V
漏源通态电阻	RDS(ON)	VGS=10V, ID=4.5A		85	95	mΩ
正向跨导	gfs	VDS=5V, ID=4.5A	5			S
动态参数						
输入电容	CISS	VDS=50V ,VGS=0V f=1.0MHz		612		pF
输出电容	COSS			120		
反向传输电容	CRSS			91		
开关特性						
开通延迟时间	tD(ON)	VDD=50V RL=8.6ohm VGS=10V RGEN=3ohm		8		ns
上升时间	tr			3		
关断延迟时间	tD(OFF)			17		
下降时间	tf			4.5		
栅极总电荷	Qg	VDS=50V,ID=4.5A VGS=10V		11		nC
栅源电荷	Qgs			1.9		
栅漏电荷	Qgd			2.8		
漏源二极管特征参数						
漏源二极管正向电压	VSD	VGS=0V,Isd=1 A		0.7	1	V

■ 温度特性

热电阻 结温－环境温度	Rth JA	3.3	℃/W

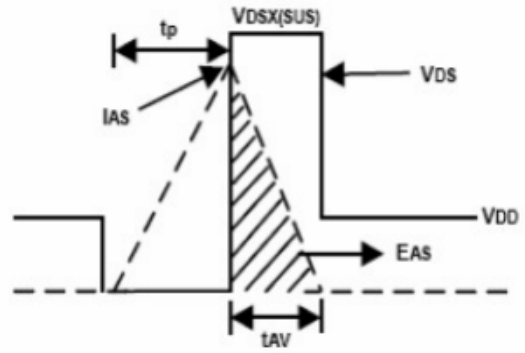
■ 打印标识

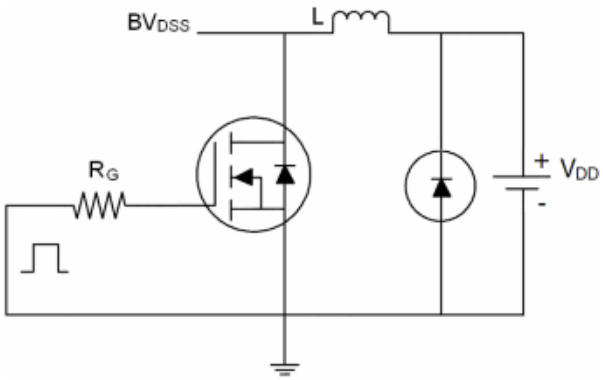


■ 测试电路与特性曲线

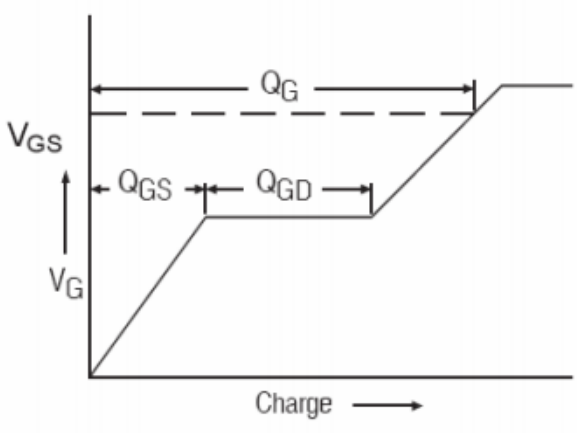
- 测试电路图

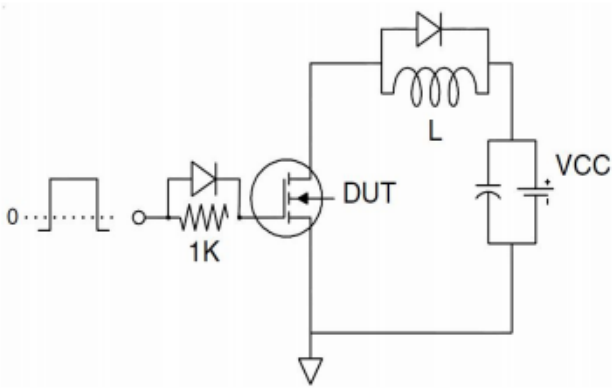
1) E_{AS} Test Circuits



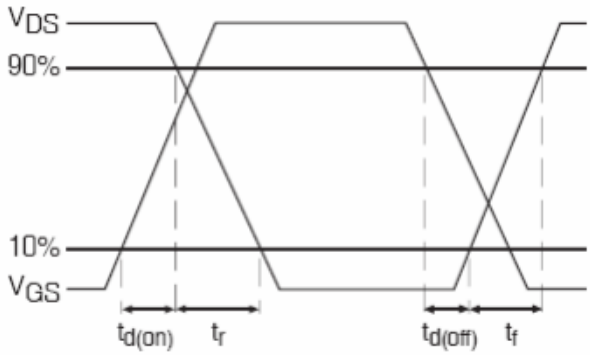


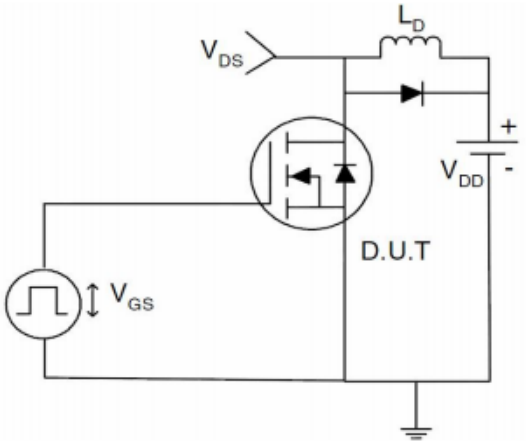
2) Gate Charge Test Circuit:





3) Switch Time Test Circuit:





- 测试电路图

Figure1. On-Region Characteristics

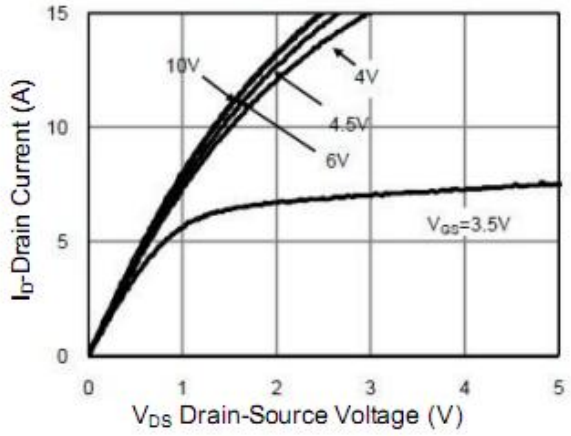


Figure 2: Transfer Characteristics

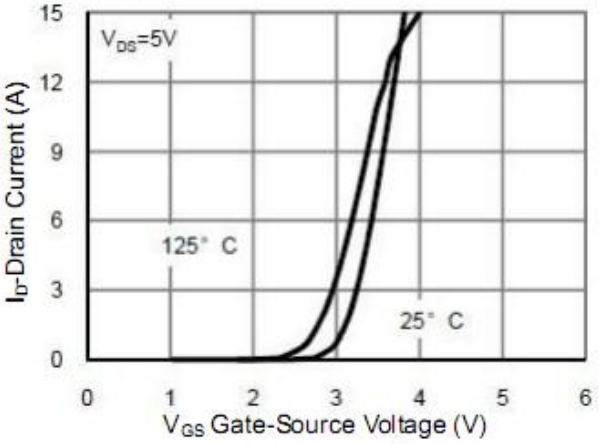


Figure3. On-Resistance vs. Drain Current and Gate Voltage

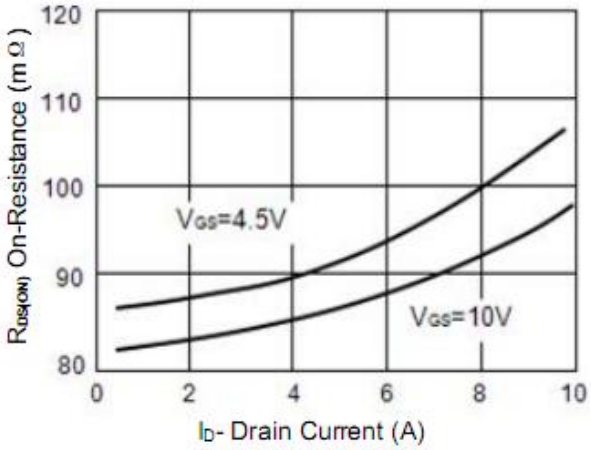


Figure4. On-Resistance vs. Junction Temperature

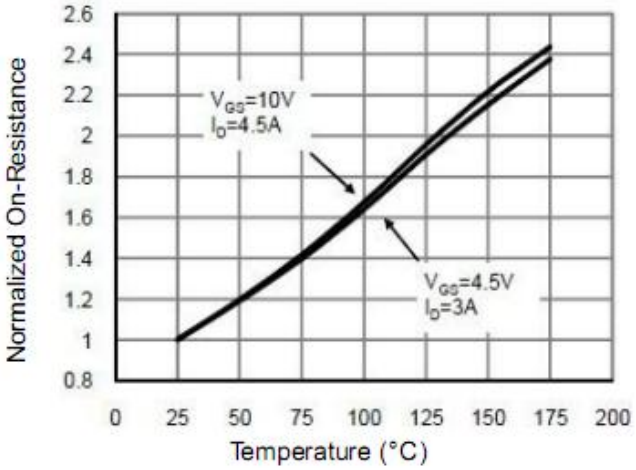


Figure5. On-Resistance vs. Gate-Source Voltage

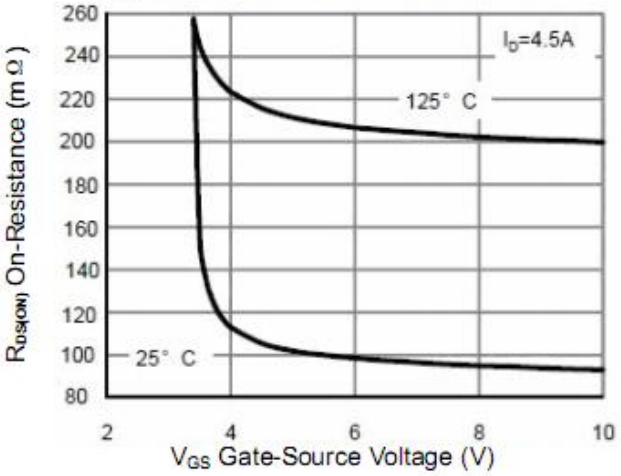


Figure6. Body-Diode Characteristics

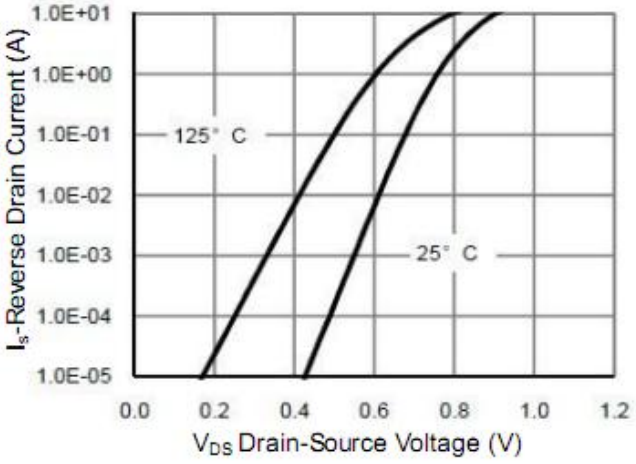


Figure7. Gate-Charge Characteristics

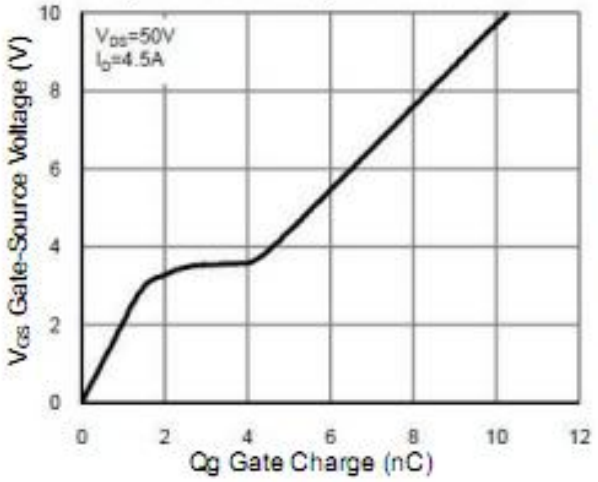


Figure 8. Capacitance Characteristics

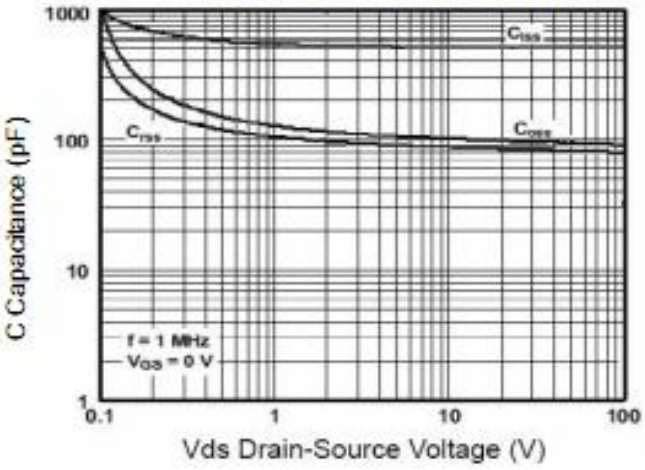


Figure 9. Maximum Forward Biased Safe Operating Area

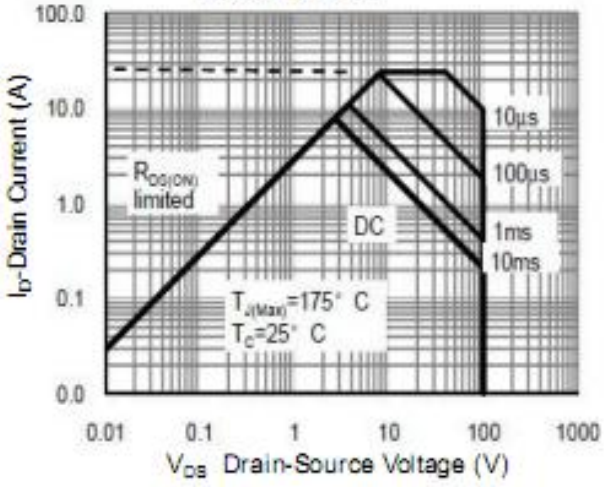


Figure10. Single Pulse Power Rating Junction-to-Case

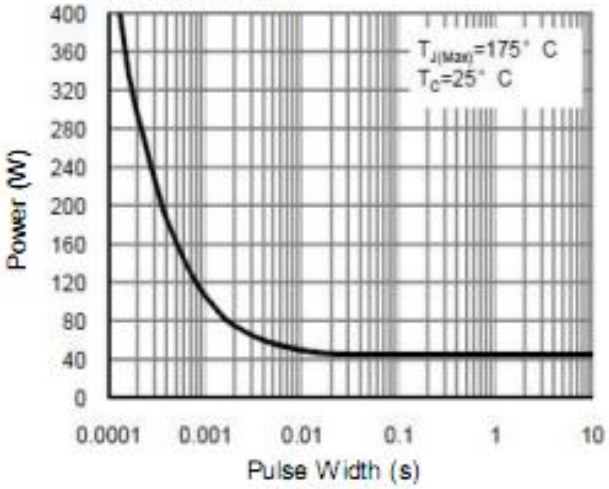
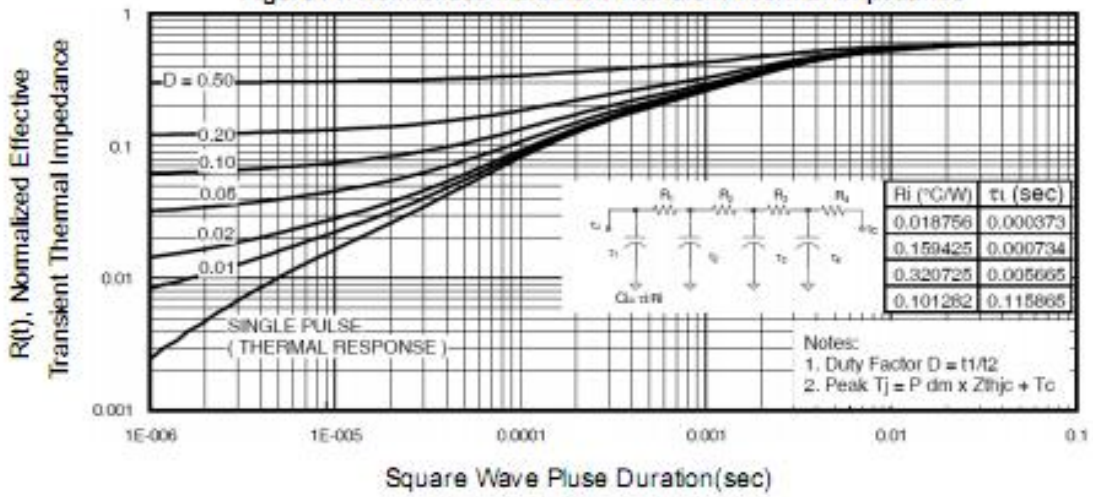
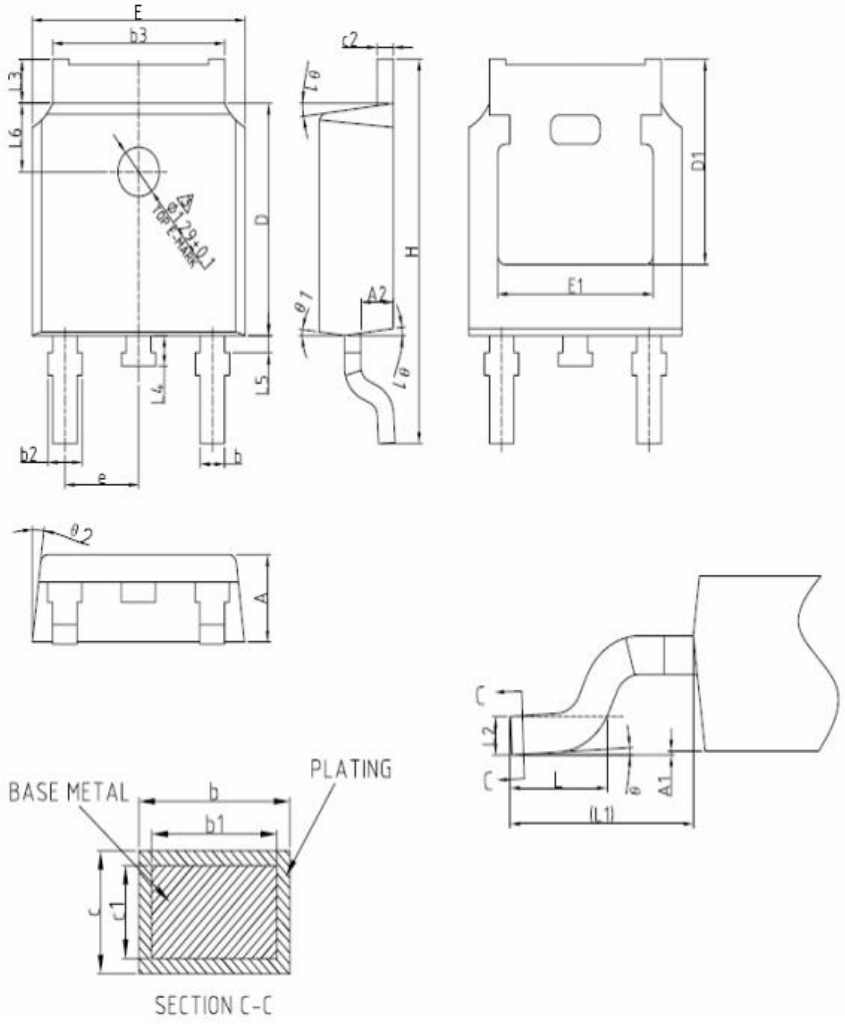


Figure11. Normalized Maximum Transient Thermal Impedance



■ 封装形式

- TO-252



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

	SYMBOL	MIN	NOM	MAX
	A	2.20	2.30	2.38
	A1	0	–	0.10
⚠	A2	0.90	1.01	1.10
	b	0.72	–	0.85
	b1	0.71	0.76	0.81
	b2	0.72	–	0.90
	b3	5.13	5.33	5.46
	c	0.47	–	0.60
	c1	0.46	0.51	0.56
	c2	0.47	–	0.60
	D	6.00	6.10	6.20
	D1	5.25	–	–
	E	6.50	6.60	6.70
	E1	4.70	–	–
	e	2.186	2.286	2.386
	H	9.80	10.10	10.40
	L	1.40	1.50	1.70
	L1		2.90REF	
	L2		0.51BSC	
	L3	0.90	–	1.25
	L4	0.60	0.80	1.00
	L5	0.15	–	0.75
	L6		1.80REF	
	θ	0°	–	8°
⚠	θ1	5°	7°	9°
⚠	θ2	5°	7°	9°