

承 认 书

SPECIFICATION FOR APPROVAL

客户：佛山电器照明股份有限公司

CUSTOMER:

日期：

DATE: 2016年12月13日

厂牌：

型号：25N06G

TYPE NUMBER:

重庆平伟实业股份有限公司

CHONGQING PINGWEI ENTERPRISE CO., LTD.

公司总部地址：梁平县梁山镇皂角村双桂工业园

电话：023-85709658

传真：023-85709600

顺德办事处：顺德大良新宁路43号家电城十座194-195号

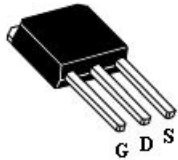
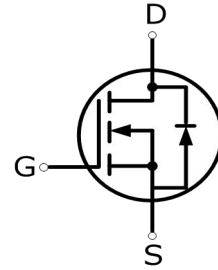
电话：0757-22231276

传真：0757-22207853

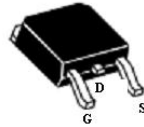
POWER MOSFET

Features

- 25A,60V, $R_{DS(ON)MAX}=0.036\ \Omega @V_{GS}=10V/12.5A$
- Low gate charge
- Low C_{iss}
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability



TO-251(IPAK)
25N06D



TO-252(DPAK)
25N06G

Absolute Maximum Ratings($T_C=25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	25N06D&25N06G	UNIT
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	
Continuous Drain Current	I_D	25	A
Pulsed Drain Current(Note1)	I_{DM}	100	
Single Pulse Avalanche Energy (Note 2)	E_{AS}	100	mJ
Avalanche Current(Note1)	I_{AR}	20	A
Repetitive Avalanche Energy (Note1)	E_{AR}	4	mJ
Reverse Diode dV/dt (Note 3)	dv/dt	5.0	V/ns
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55to+150	$^\circ\text{C}$
Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	T_L	260	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	25N06D&25N06G	Units
Thermal resistance , Junction to Case	$R_{th(j-c)}$	2.5	$^\circ\text{C}/\text{W}$
Thermal resistance , Channel to Case	$R_{th(ch-c)}$	2.5	$^\circ\text{C}/\text{W}$
Thermal resistance , Channel to Ambient	$R_{th(ch-a)}$	62.5	$^\circ\text{C}/\text{W}$
Maximum Power Dissipation	$T_C=25^\circ\text{C}$ P_D	50	W

Electrical Characteristics (T _c =25°C, unless otherwise noted)						
Parameter	Symbol	Test Conditions	Mix	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	60	—	—	V
Breakdown Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =250uA	—	0.05	—	V/°C
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =48V, V _{GS} =0V	—	—	1	uA
Gate-Body Leakage Current, Forward	I _{GSSF}	V _{GS} =20V, V _{DS} =0V	—	—	100	nA
Gate-Body Leakage Current, Reverse	I _{GSSR}	V _{GS} =-20V, V _{DS} =0V	—	—	-100	nA
On Characteristics						
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250uA	1.0	—	3.0	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =10A	—	0.025	0.036	Ω
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1.0MHZ	—	1296	—	pF
Output Capacitance	C _{oss}		—	117	—	pF
Reverse Transfer Capacitance	C _{rss}		—	87	—	pF
Switching Characteristics						
Turn-On Delay Time	t _{d(on)}	V _{DD} =30V, I _D =18A, R _G =3.3Ω (Note4,5)	—	8	—	ns
Turn-On Rise Time	t _r		—	19	—	ns
Turn-Off Delay Time	t _{d(off)}		—	34	—	ns
Turn-Off Fall Time	t _f		—	7	—	ns
Total Gate Charge	Q _g	V _{DS} =30V, I _D =18A, V _{GS} =4.5V, (Note4,5)	—	13	—	nC
Gate-Source Charge	Q _{gs}		—	6.8	—	nC
Gate-Drain Charge	Q _{gd}		—	4	—	nC
Drain-Source Body Diode Characteristics and Maximum Ratings						
Continuous Diode Forward Current	I _S		—	—	25	A
Pulsed Diode Forward Current	I _{SM}		—	—	100	A
Diode Forward Voltage	V _{SD}	I _S =25A, V _{GS} =0V	—	—	1.5	V
Reverse Recovery Time	t _{rr}	V _{GS} =0V, I _S =25A, dI _F /dt=100A/us, (Note4)	—	53	—	ns
Reverse Recovery Charge	Q _{rr}		—	86	—	uC

Notes

1. Repetitive Rating: pulse width limited by maximum junction temperature .
2. V_{DD}=50V, L=0.5mH, R_g=25 Ω, I_{AS}=25A, starting T_J=25°C.
3. I_{SD} ≤ I_D, dI/dt = _A/us, V_{DD} ≤ BV_{DSS}, starting T_J=25°C.
4. Pulse width ≤ 300us; duty cycle ≤ 2%.
5. Repetitive rating; pulse width limited by maximum junction temperature.

Test Circuit and Waveform

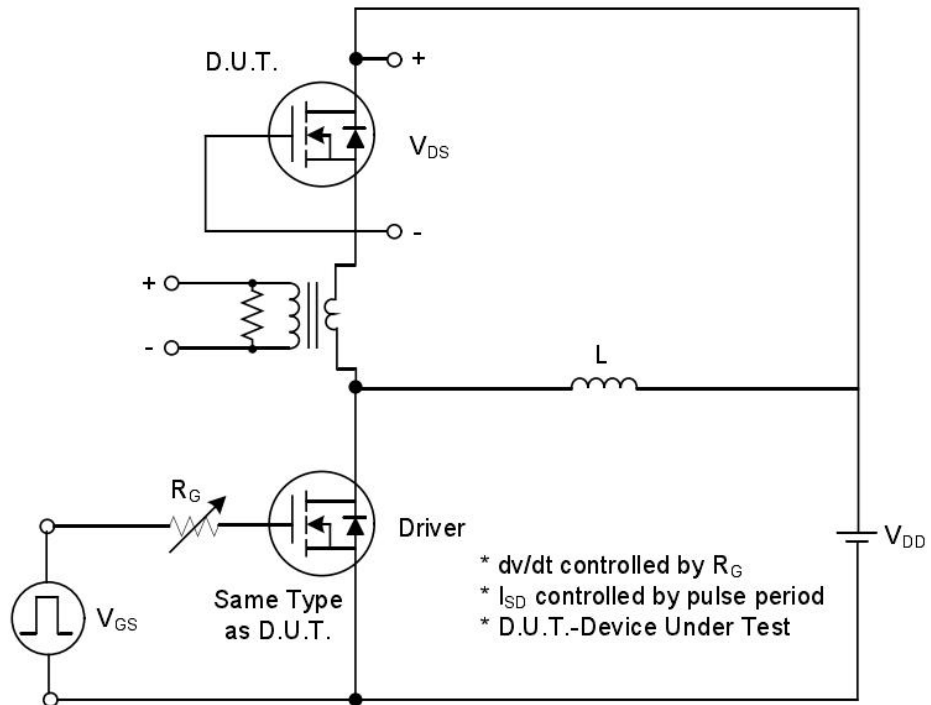


Fig. 1A Peak Diode Recovery dv/dt Test Circuit

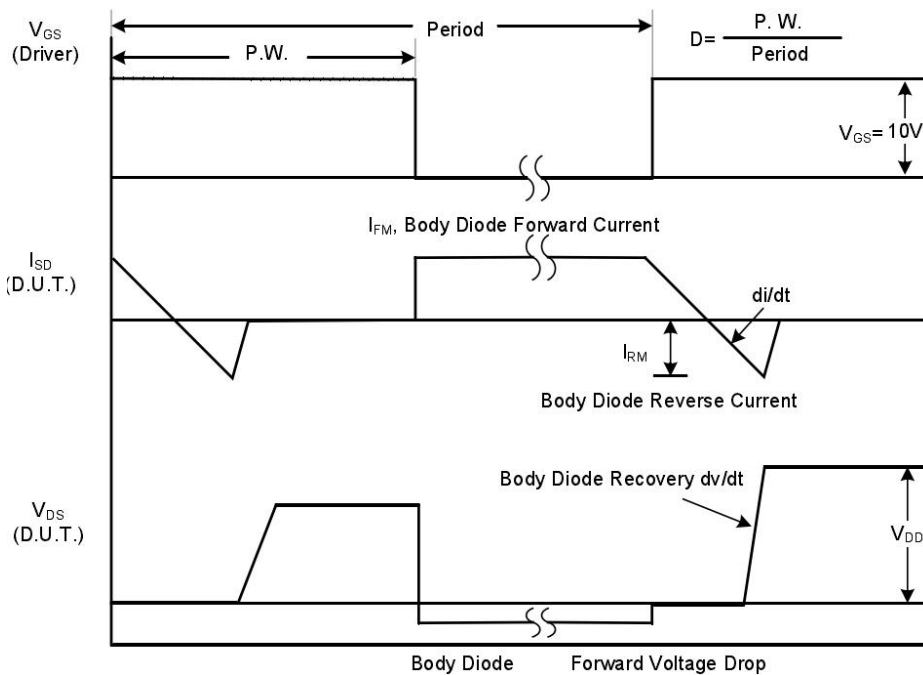


Fig. 1B Peak Diode Recovery dv/dt Waveforms

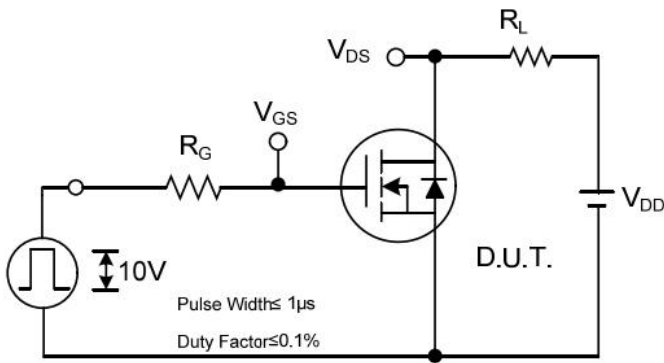


Fig. 2A Switching Test Circuit

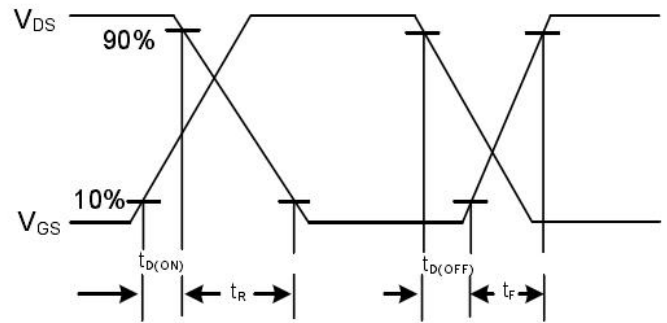


Fig. 2B Switching Waveforms

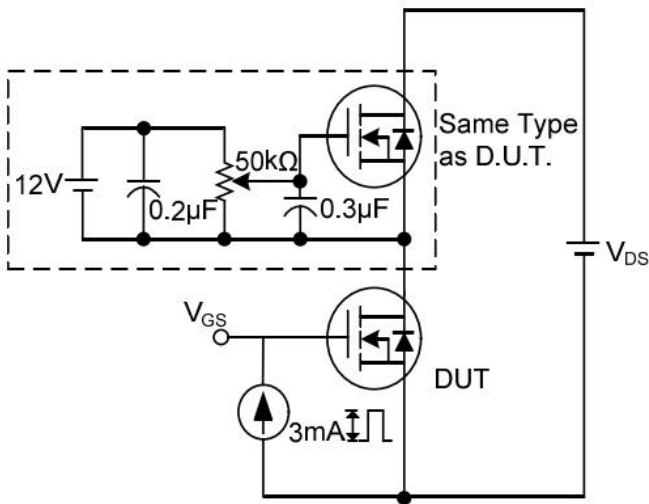


Fig. 3A Gate Charge Test Circuit

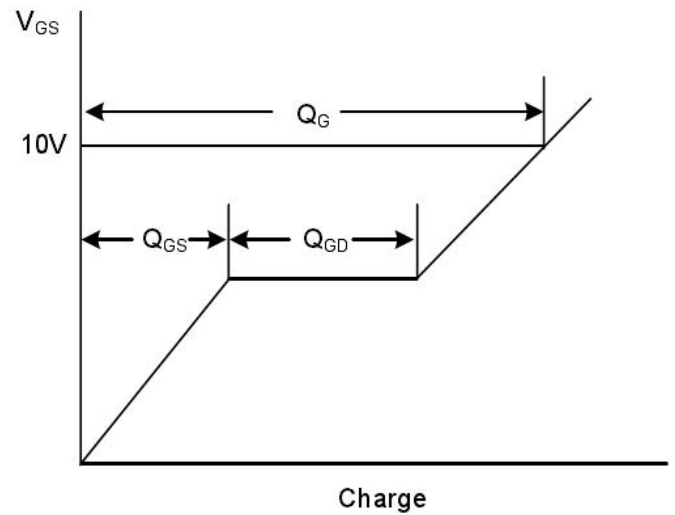


Fig. 3B Gate Charge Waveform

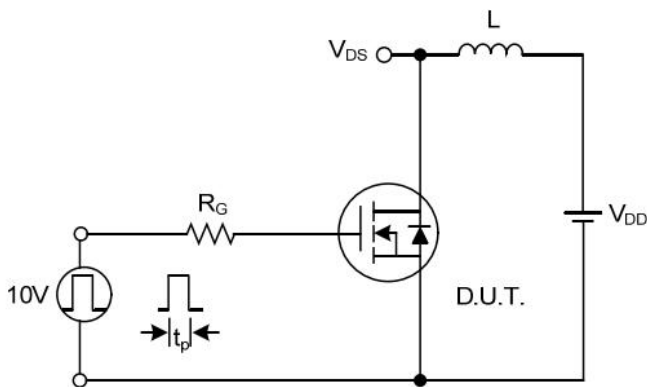


Fig. 4A Unclamped Inductive Switching Test Circuit

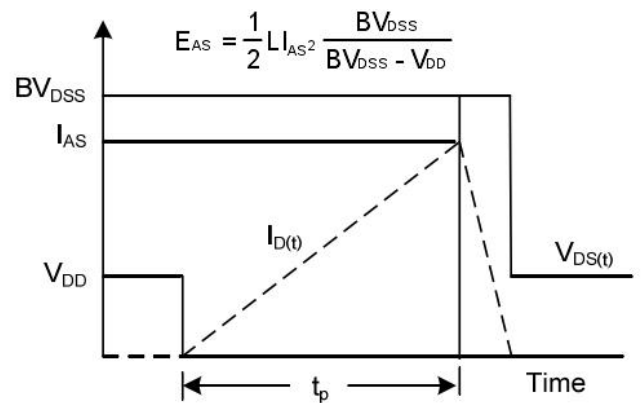
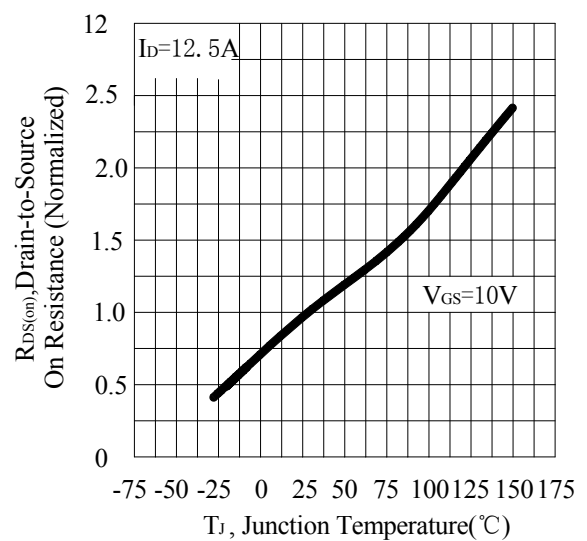
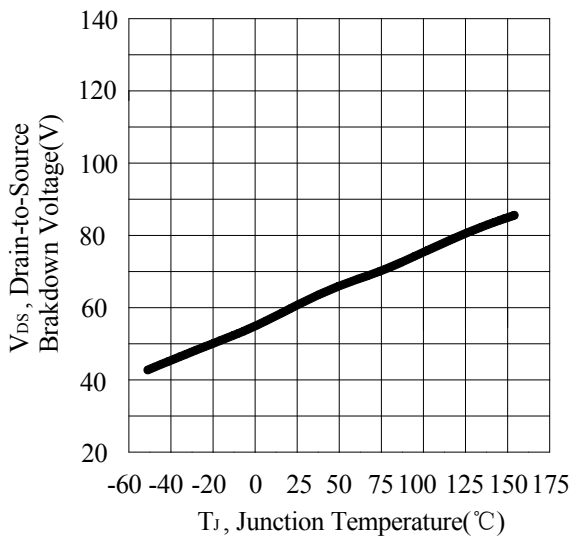
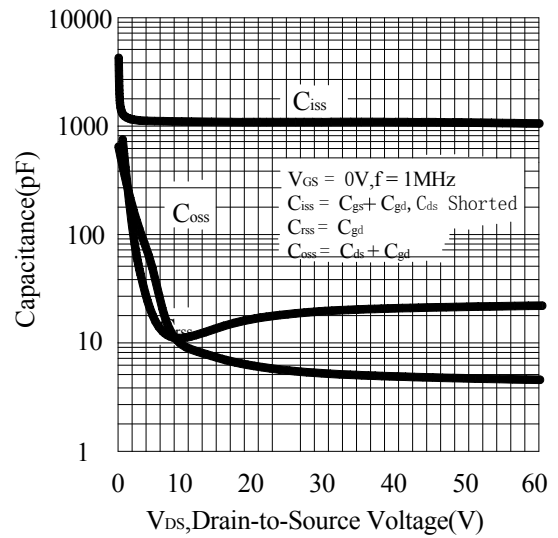
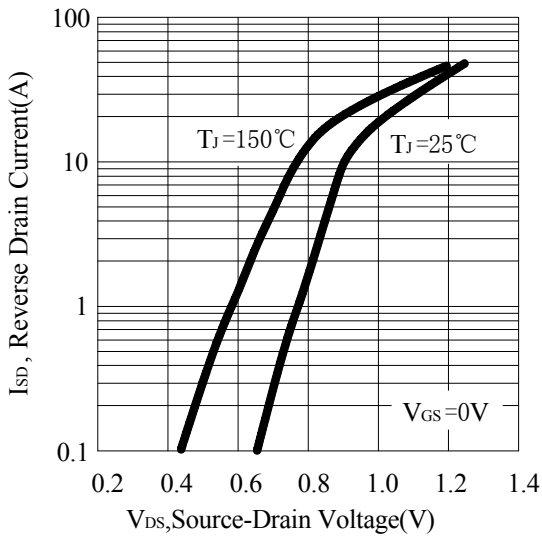
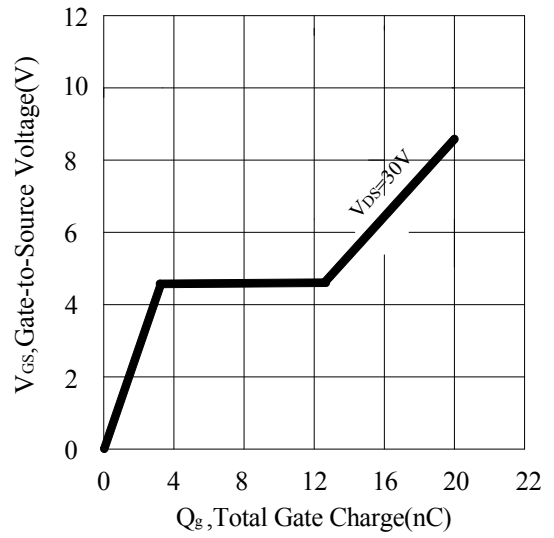
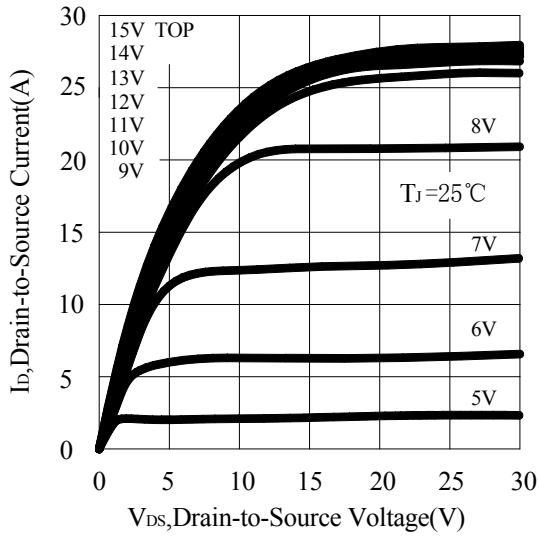
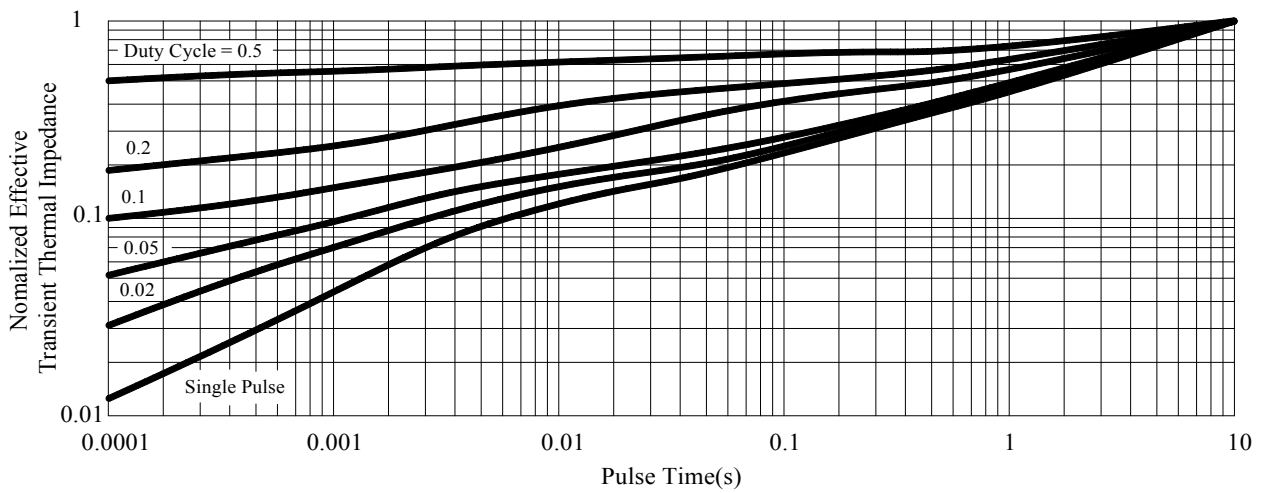
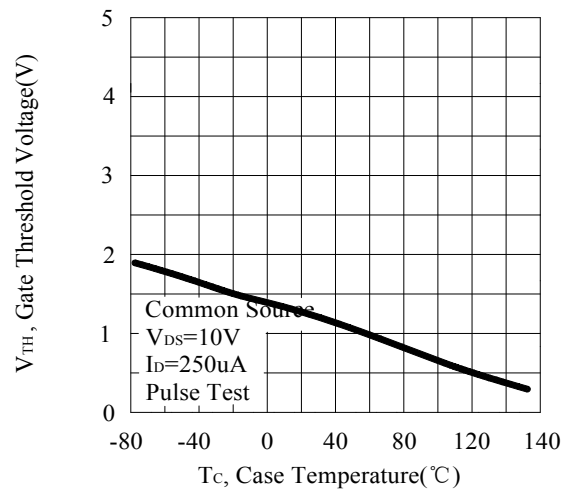
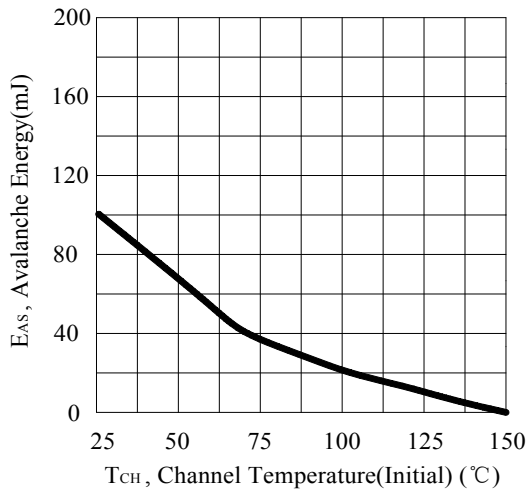
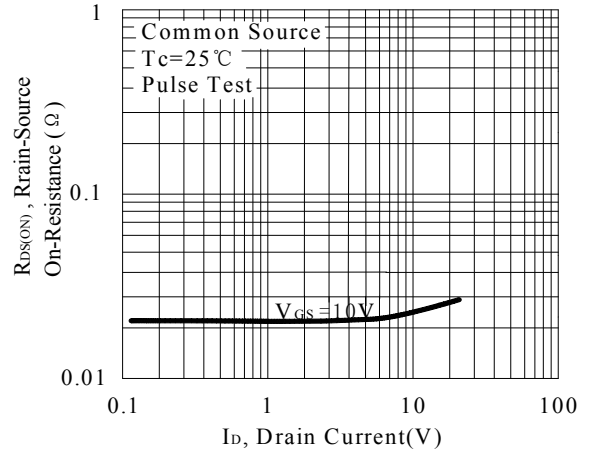
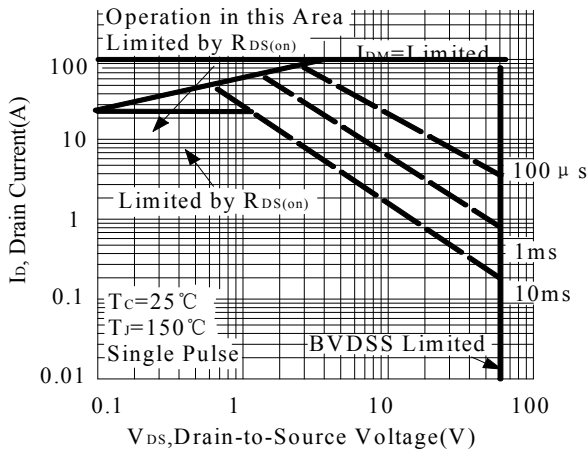


Fig. 4B Unclamped Inductive Switching Waveforms

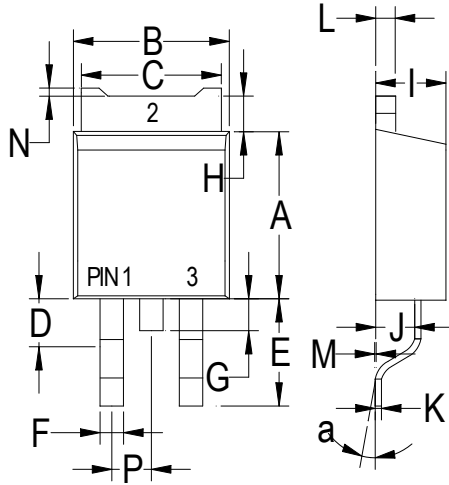
RATING AND CHARACTERISTIC CURVES





PACKAGE OUTLINE DIMENSIONS

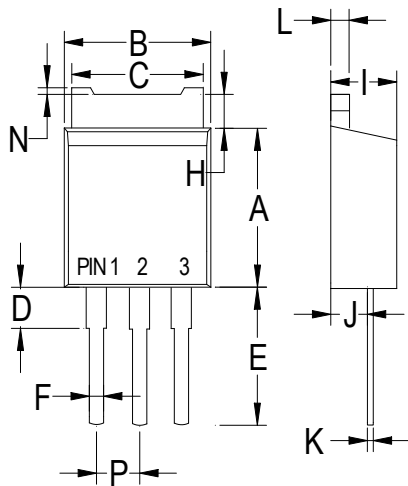
TO-252



TO-252		
Dim	Min	Max
A	.230 (5.85)	.246 (6.25)
B	.250 (6.35)	.264 (6.75)
C	.207 (5.27)	.218 (5.54)
D	.037 (0.93)	.045 (1.14)
E	.106 (2.70)	.138 (3.50)
F	.028 (0.72)	.033 (0.84)
G	.024 (0.60)	.041 (1.05)
H	.028 (0.72)	.043 (1.10)
I	.085 (2.15)	.096 (2.45)
J	.037 (0.95)	.047 (1.20)
K	.018 (0.45)	.026 (0.65)
L	.018 (0.45)	.024 (0.60)
P	.081 (2.05)	.094 (2.40)
M	.000 (0.00)	.006 (0.15)
N	--	.008 (0.20)
a	0°	10°

Dimensions in inches and (millimeters)

TO-251



TO-251		
Dim	Min	Max
A	.230 (5.85)	.246 (6.25)
B	.250 (6.35)	.266 (6.75)
C	.207 (5.27)	.218 (5.54)
D	.037 (0.93)	.045 (1.14)
E	.173 (4.40)	.205 (5.20)
F	.028 (0.72)	.033 (0.84)
H	.028 (0.70)	.043 (1.10)
I	.085 (2.15)	.096 (2.45)
J	.037 (0.95)	.047 (1.20)
K	.018 (0.45)	.026 (0.65)
L	.018 (0.45)	.024 (0.60)
N	--	.008 (0.20)
P	.081 (2.05)	.094 (2.40)

Dimensions in inches and (millimeters)