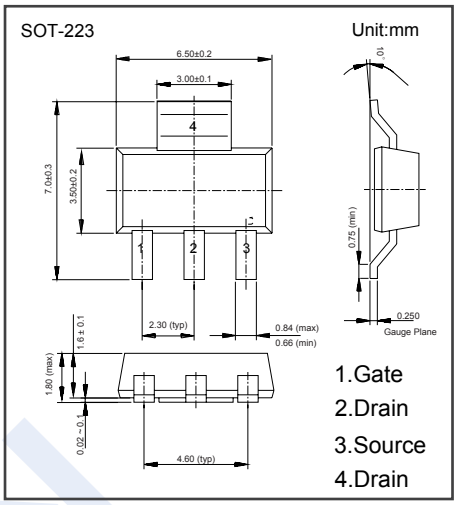
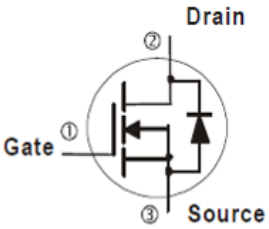
N-Channel MOSFET
NFT1N60



■ Features

- V_{DS} (V) = 600V
- I_D = 0.4 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 7.9Ω (V_{GS} = 10V)
- High switching speed
- Improved dv/dt capability



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	600	V
Gate-Source Voltage		V_{GS}	±30	
Continuous Drain Current		I_D	0.4	A
Pulsed Drain Current		I_{DM}	1.6	
Single Pulse Avalanche Energy		E_{AS}	52	mJ
Power Dissipation	Tc = 25℃	P_D	3.3	W
	Derate above 25℃		0.026	W/℃
Thermal Resistance.Junction- to-Ambient		$R_{\theta JA}$	37.9	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	600			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=600V, V_{GS}=0V			1	uA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±30V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=0.5A			7.9	Ω
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, f=1MHz		148		pF
Output Capacitance	C_{oss}			28		
Reverse Transfer Capacitance	C_{rss}			0.3		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=480V, I_D=1A		3.1		nC
Gate Source Charge	Q_{gs}			1.3		
Gate Drain Charge	Q_{gd}			0.4		
Turn-On DelayTime	$t_{d(on)}$	V_{DS}=300V, I_D=1A,R_{GEN}=25Ω		6		ns
Turn-On Rise Time	t_r			20		
Turn-Off DelayTime	$t_{d(off)}$			9		
Turn-Off Fall Time	t_f			26		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 1A, dI/dt= 100A/us,V_{GS}=0		190		
Body Diode Reverse Recovery Charge	Q_{rr}			0.53		uC
Maximum Continuous Drain-Source Diode Forward Current	I_S				1	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}				4	
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V			1.4	V

Note.:Pulse width≤300us, Duty cycle≤2%

■ Marking

Marking	1N60

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■ Typical Characterisitics

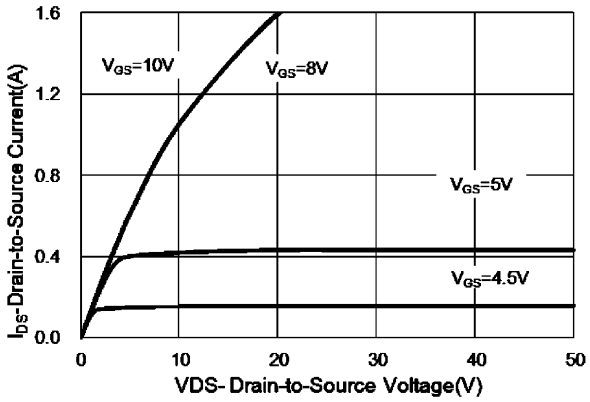

Fig.1 Output Characteristics

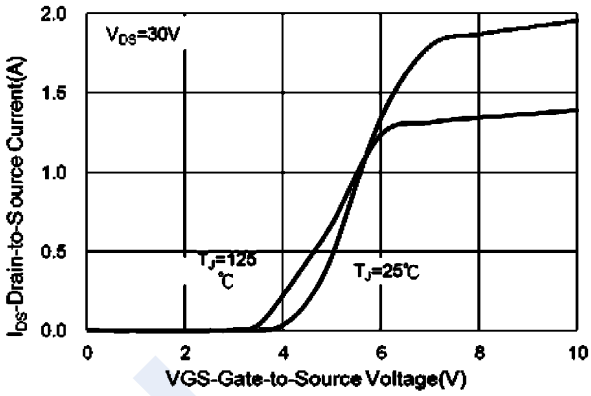

Fig.2 Transfer Characteristics

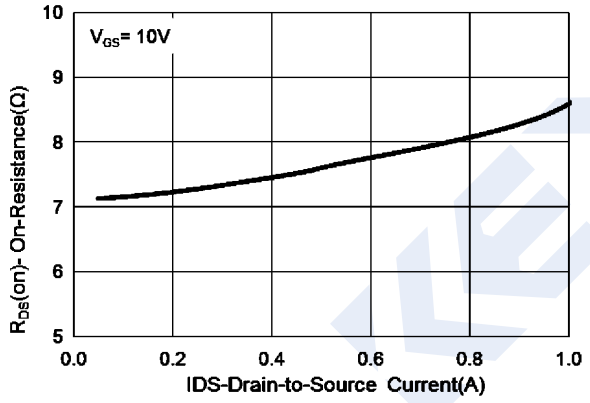

Fig.3 On-Resistance vs. Drain Current

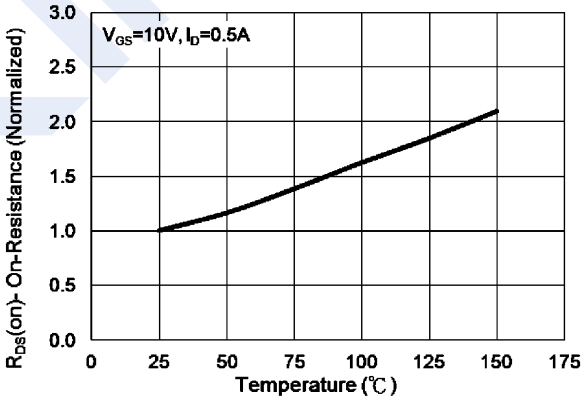

Fig.4 On-Resistance vs. Junction Temperature

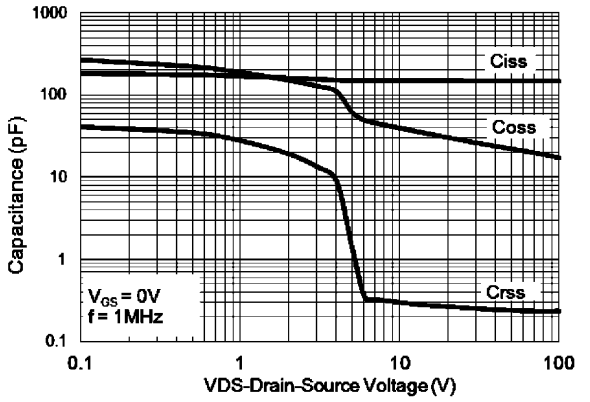

Fig.5 Capacitance vs. Drain-Source Voltage

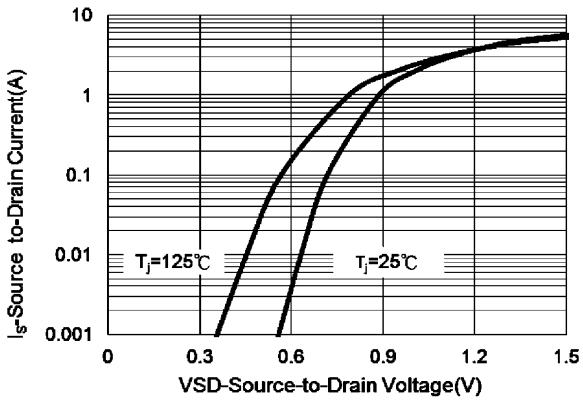

Fig.6 Source-Drain Diode Forward Voltage

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■ Typical Characterisitics

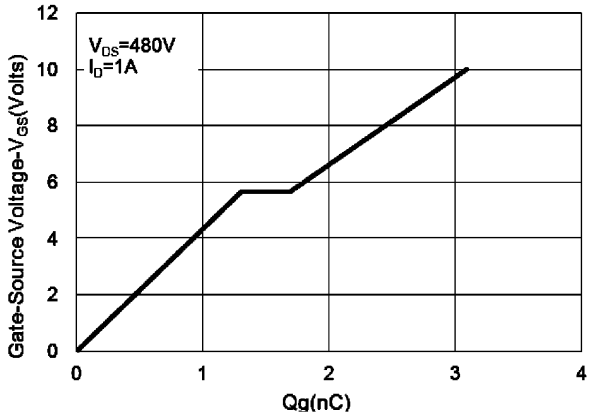

Fig.7 Gate Charge

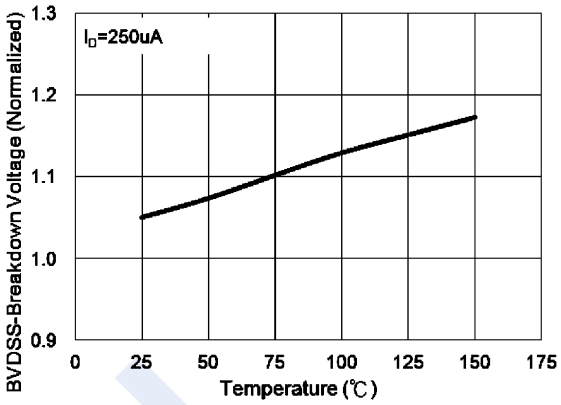

Fig.8 BV_{DSS} vs. Junction Temperature

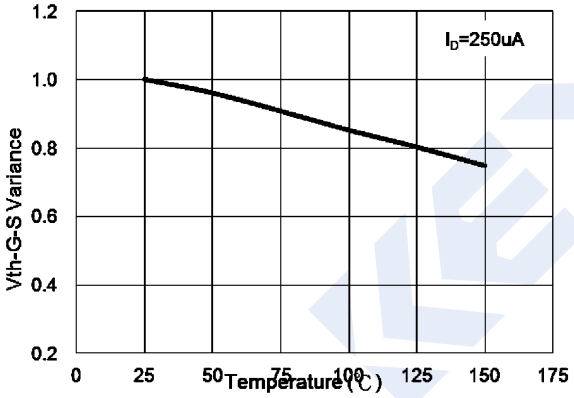

Fig.9 Threshold Voltage Variation with Temperature

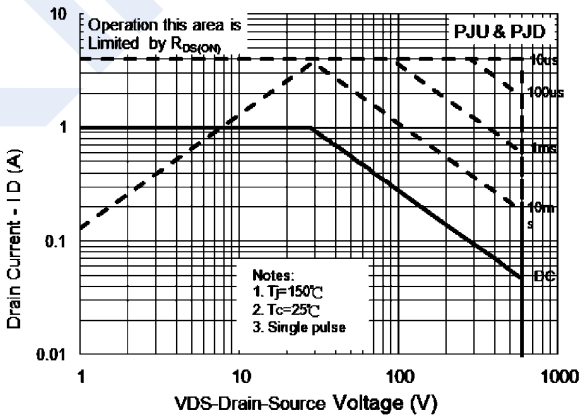

Fig.10 Maximum Safe Operating Area

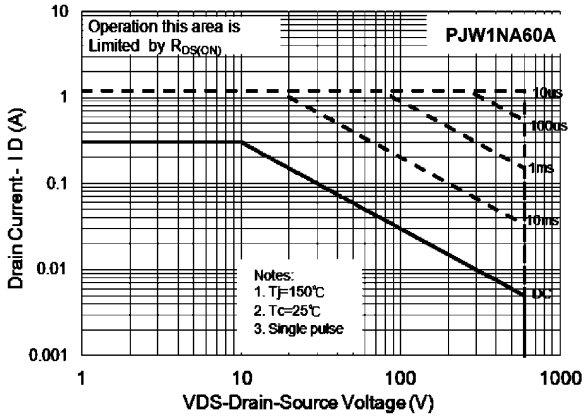

Fig.11 Maximum Safe Operating Area

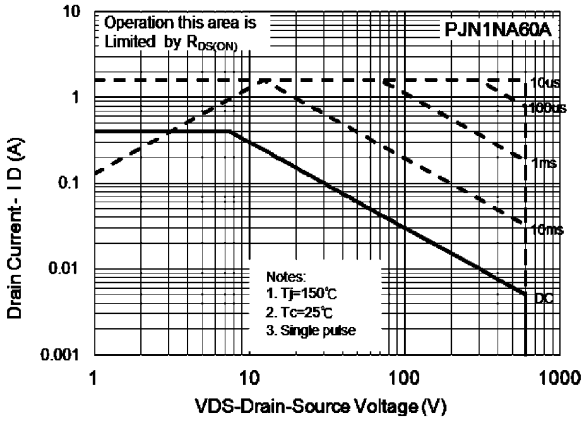

Fig.12 Maximum Safe Operating Area

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■ Typical Characterisitics

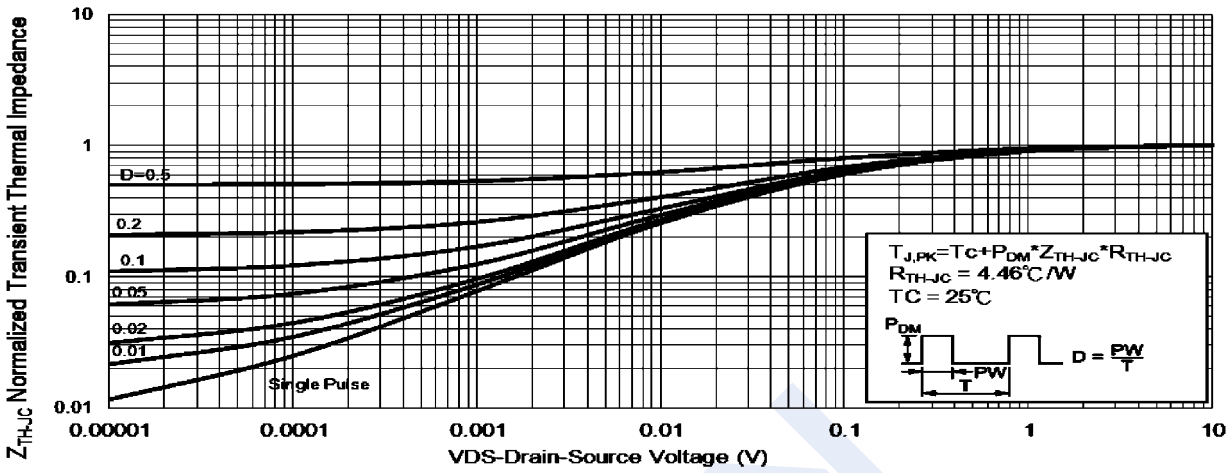

Fig.12 PJU/PJD Normalized Transient Thermal Impedance vs. Pulse Width

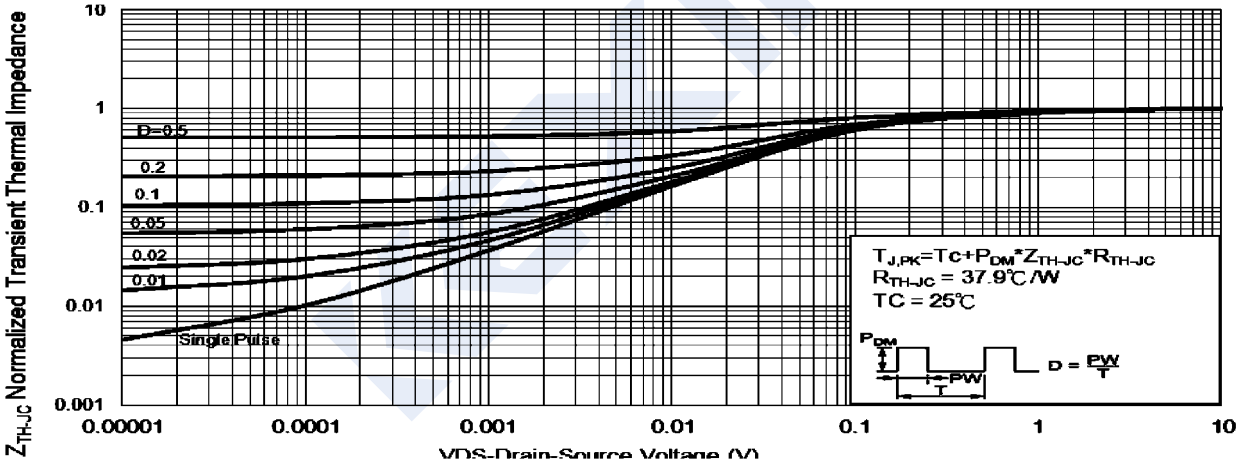

Fig.13 PJW1NA60A Normalized Transient Thermal Impedance vs. Pulse Width

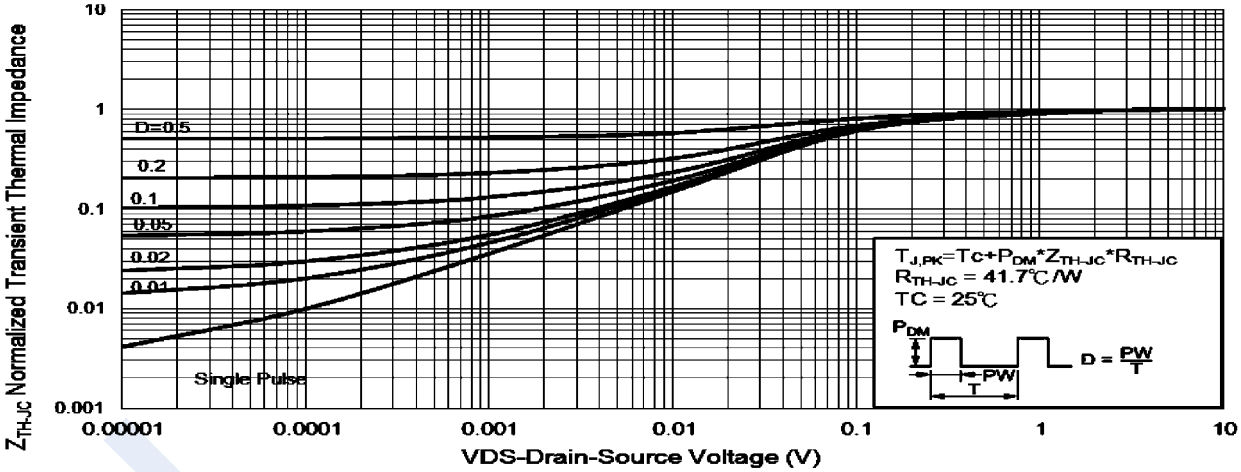

Fig.15 PJN1NA60 Normalized Transient Thermal Impedance vs. Pulse Width