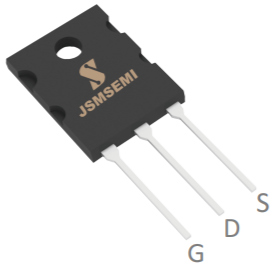
FEATURES

Fast switching

100% avalanche tested

Improved dv/dt capability

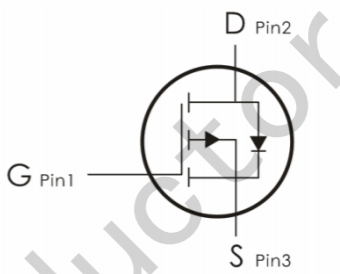


APPLICATIONS

Switch Mode Power Supply (SMPS)

Uninterruptible Power Supply (UPS)

Power Factor Correction (PFC)



Device Marking and Package Information		
Device	**Package**	**Marking**
IXTK88N30P	TO-264	IXTK88N30P

Absolute Maximum Ratings T_C = 25℃, unless otherwise noted			
Parameter	**Symbol**	**Value**	**Unit**
		TO-264	
Drain-Source Voltage (V_{GS} = 0V)	V_{DSS}	300	V
Continuous Drain Current V_{GS} = 10V T_C = 25℃	I_D	90	A
Pulsed Drain Current (note1)	I_{DM}	360	A
Gate-Source Voltage	V_{GSS}	±20	V
Single Pulse Avalanche Energy (note2)	E_{AS}	1960.2	mJ
Avalanche Current (note1)	I_{AS}	19.8	A
Repetitive Avalanche Energy (note1)	E_{AR}	1176.1	mJ
Power Dissipation (T_C = 25℃)	P_D	600	W
Peak Diode Recovery dv/dt (note1)	dv/dt	5.0	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	℃

Thermal Resistance			
Parameter	**Symbol**	**Value**	**Unit**
Thermal Resistance, Junction-to-Case	R_{thJC}	0.89	℃/W
Thermal Resistance, Junction-to-Ambient	R_{thJA}	60	

Specifications T_J = 25ºC, unless otherwise noted

Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	300	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 40V, V_{GS} = 0V, T_J = 25ºC	--	--	1	μA
		V_{DS} = 32V, V_{GS} = 0V, T_J = 125ºC	--	--	100	
Gate-Source Leakage	I_{GSS}	V_{GS} = ±20V	--	--	±100	nA
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250μA	2.0	--	4.0	V
Drain-Source On-Resistance (Note3)	$R_{DS(on)}$	V_{GS} = 10V, I_D = 40A	--	25	30	mΩ
Dynamic						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 25V, f = 1.0MHz	--	5784	--	pF
Output Capacitance	C_{oss}		--	893	--	
Reverse Transfer Capacitance	C_{rss}		--	561	--	
Total Gate Charge	Q_g	V_{DD} 20V, I_D = 190A, V_{GS} = 10V	--	367	--	nC
Gate-Source Charge	Q_{gs}		--	33.8	--	
Gate-Drain Charge	Q_{gd}		--	177	--	
Turn-on Delay Time	$t_{d(on)}$	VDD = 20V, ID =190A, RG = 10 Ω, VGS = 10V	--	55	--	ns
Turn-on Rise Time	t_r		--	165	--	
Turn-off Delay Time	$t_{d(off)}$		--	1050	--	
Turn-off Fall Time	t_f		--	367	--	
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S	T_C = 25 °C	--	--	90	A
Pulsed Diode Forward Current	I_{SM}		--	--	360	
Body Diode Voltage	V_{SD}	T_J = 25ºC, I_{SD} = 95A, V_{GS} = 0V	--	--	1.4	V
Reverse Recovery Time	t_{rr}	V_{GS} = 0V,I_S = 190A, di_F/dt =100A/μs	--	360	--	ns
Reverse Recovery Charge	Q_{rr}		--	5.61	--	μC

Notes

1. Repetitive Rating: Pulse width limited by maximum junction temperature
2. L = 10mH, VDD = 50V, RG = 25 Ω, Starting TJ = 25 ºC
3. Pulse Test: Pulse width ≤ 300μs, Duty Cycle ≤ 1%

Typical Characteristics T_J = 25°C, unless otherwise noted

Figure 1. Output Characteristics (T_J = 25°C)

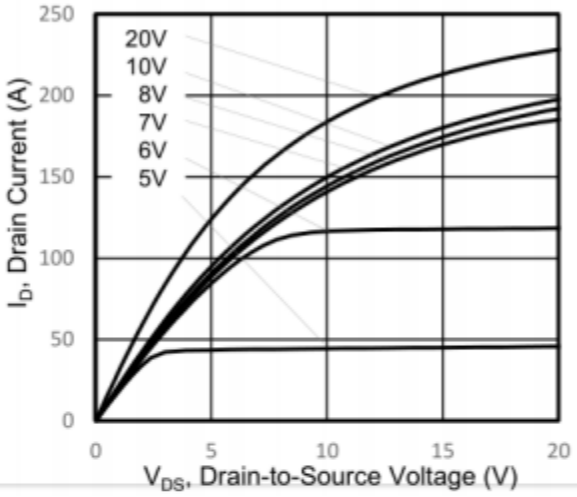


Figure 2. Body Diode Forward Voltage

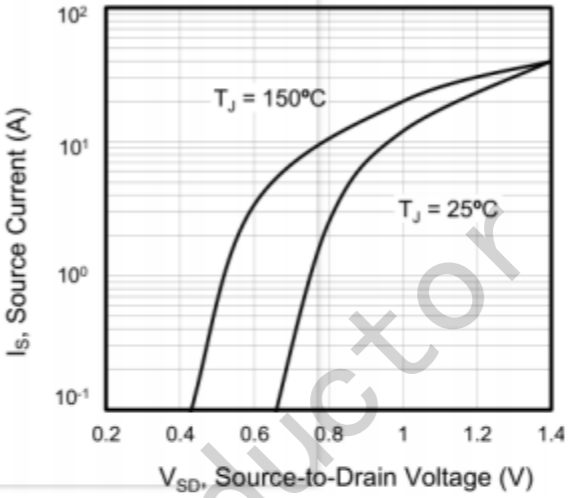


Figure 3. Drain Current vs. Temperature

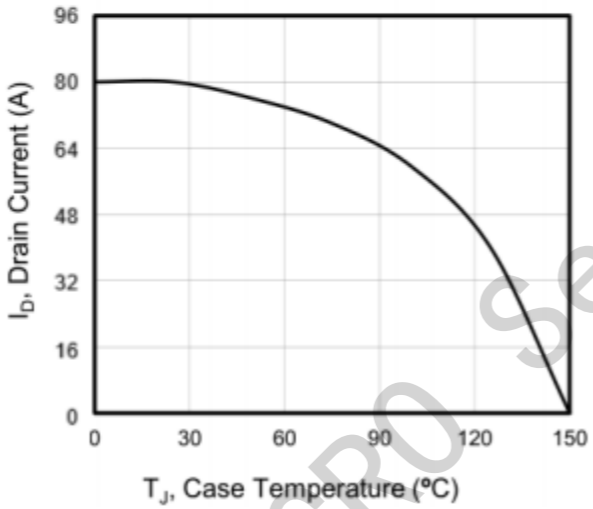


Figure 4. BV_{DSS} Variation vs. Temperature

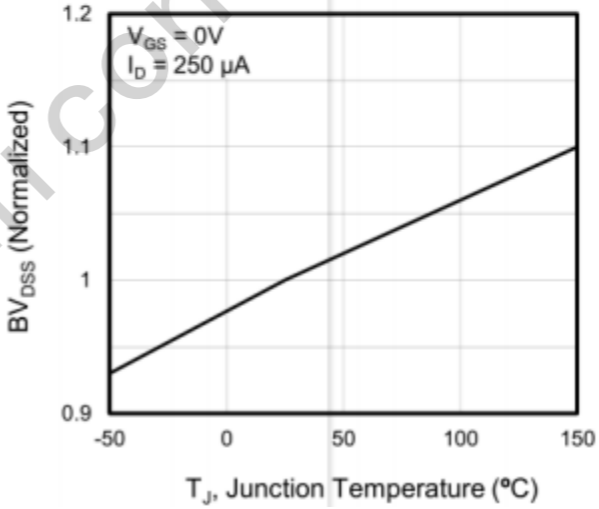


Figure 5. Transfer Characteristics

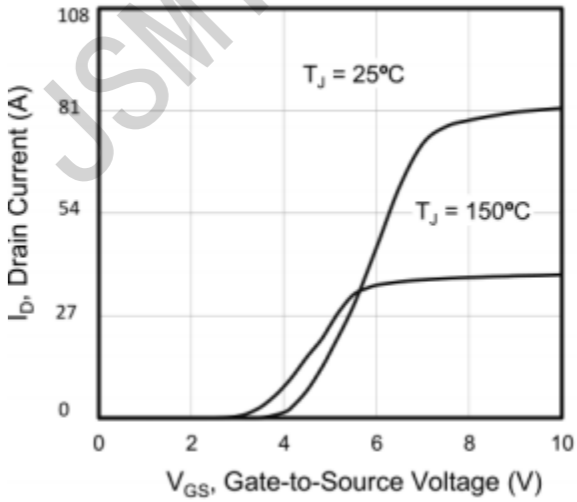
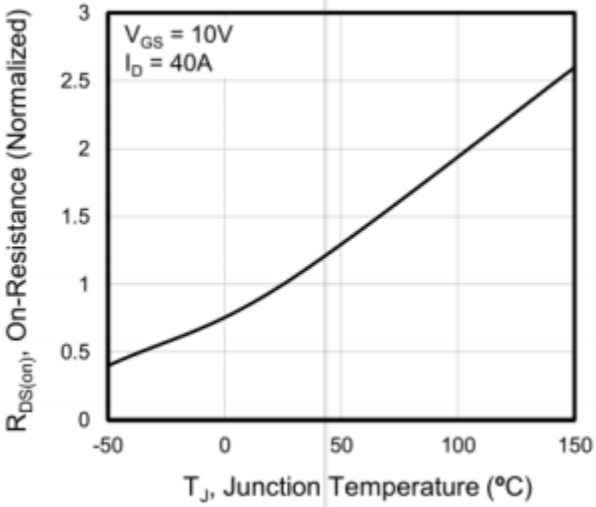


Figure 6. On-Resistance vs. Temperature



Typical Characteristics T_J = 25ºC, unless otherwise noted

Figure 7. Capacitance

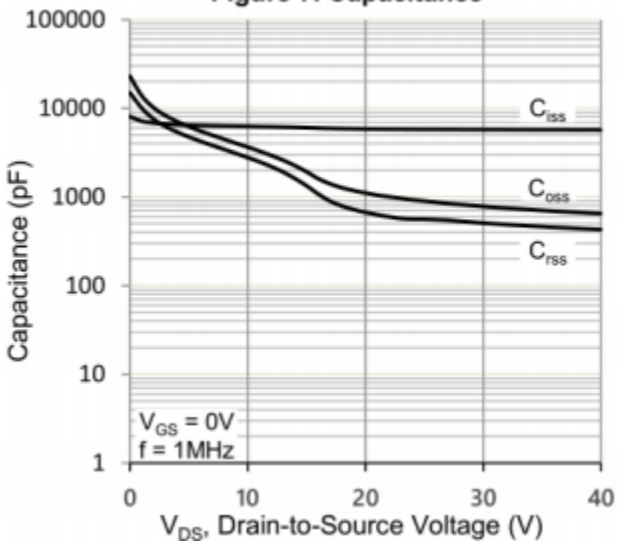


Figure 8. Gate Charge

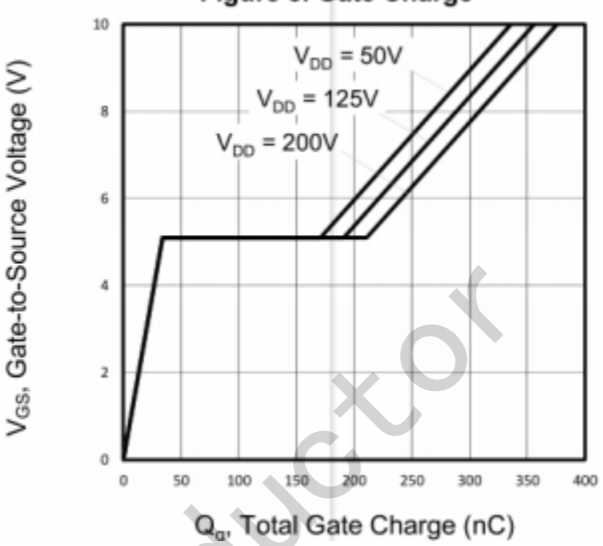


Figure 10. Transient Thermal Impedance

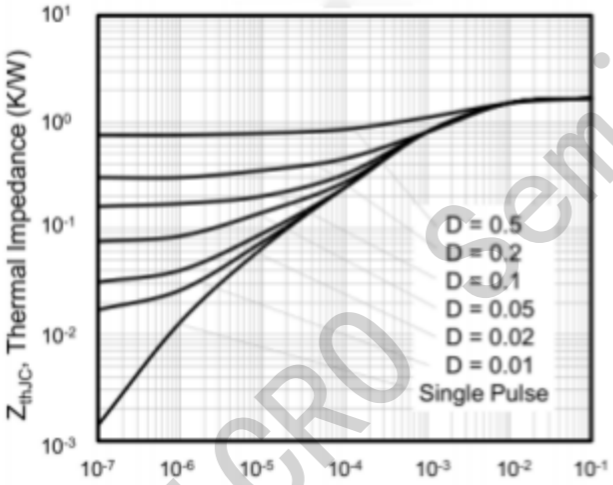


Figure A: Gate Charge Test Circuit and Waveform

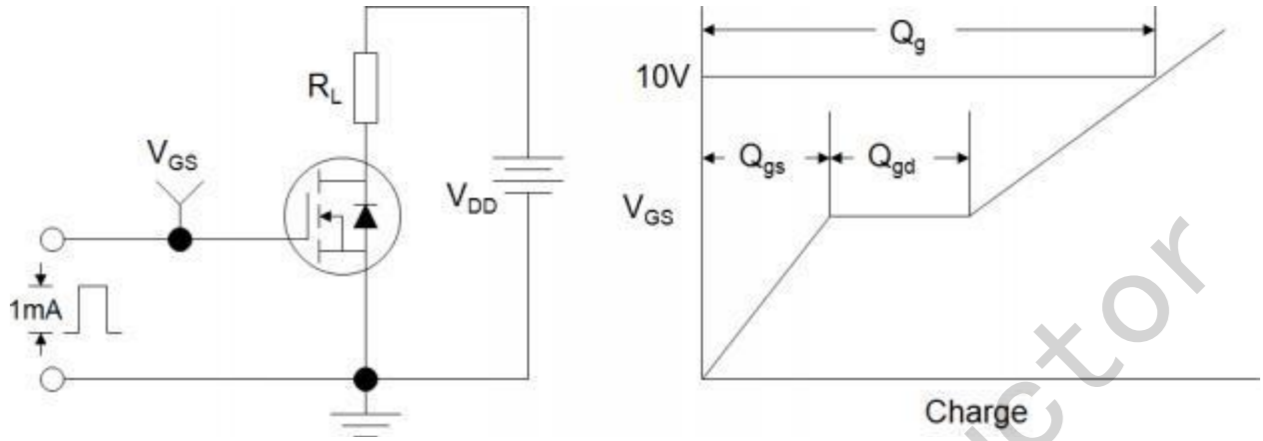


Figure B : Resistive Switching Test Circuit and Waveform

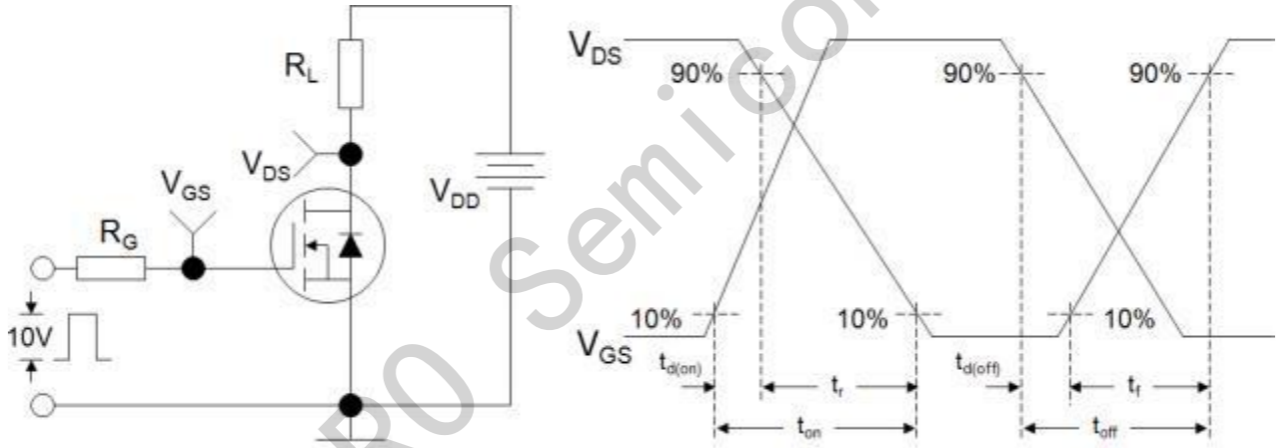
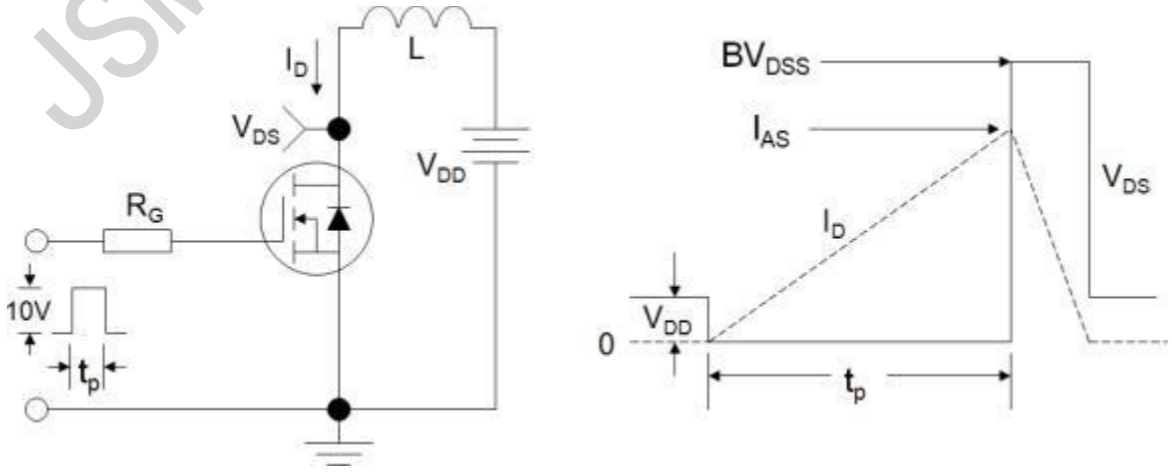
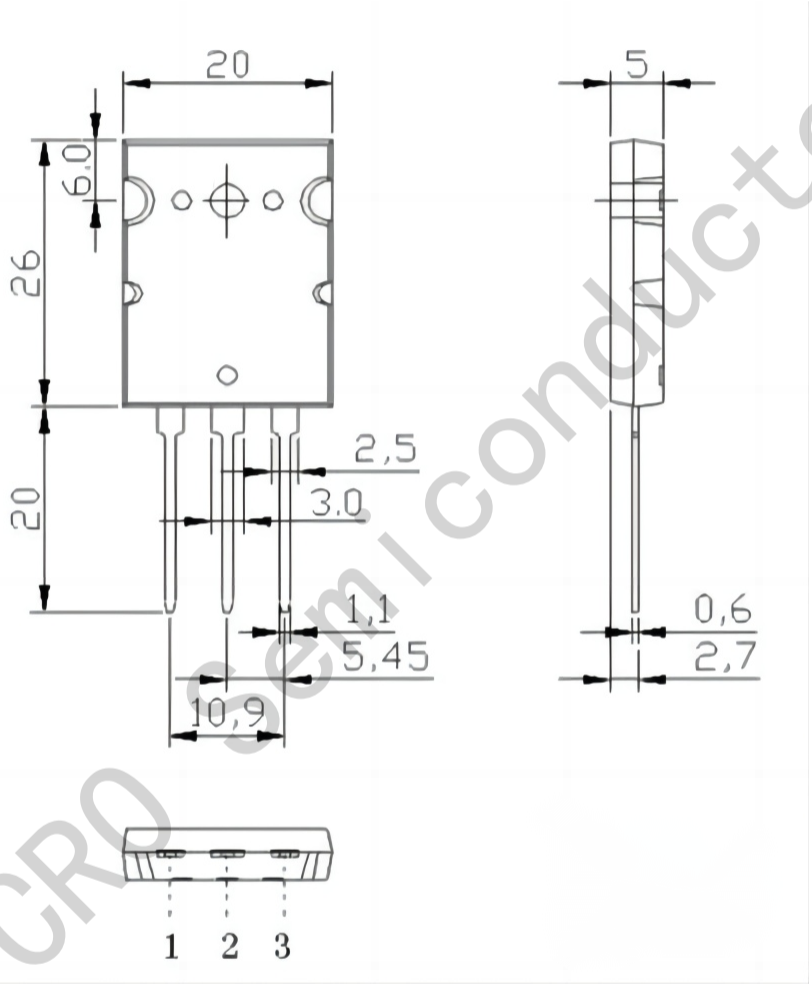


Figure C : Unclamped Inductive Switching Test Circuit and Waveform



TO-264 Package Dimensions



单击下面可查看定价，库存，交付和生命周期等信息

>>JSMSEMI(杰盛微)