

Polar™
Power MOSFET

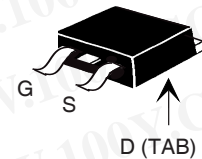
IXTA06N120P
IXTP06N120P

$V_{DSS} = 1200V$
 $I_{D25} = 0.6A$
 $R_{DS(on)} \leq 34\Omega$

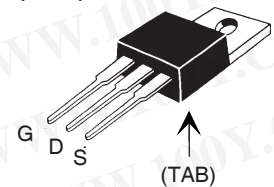
N-Channel Enhancement Mode
Avalanche Rated



TO-263 (IXTA)



TO-220 (IXTP)



G = Gate D = Drain
 S = Source TAB = Drain

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ C$ to $150^\circ C$	1200	V
V_{DGR}	$T_J = 25^\circ C$ to $150^\circ C$, $R_{GS} = 1M\Omega$	1200	V
V_{GSS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ C$	0.6	A
I_{DM}	$T_C = 25^\circ C$, Pulse Width Limited by T_{JM}	1.2	A
I_A	$T_C = 25^\circ C$	0.6	A
E_{AS}	$T_C = 25^\circ C$	50	mJ
dV/dt	$I_S \leq I_{DM}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 150^\circ C$	10	V/ns
P_D	$T_C = 25^\circ C$	42	W
T_J		-55 ... +150	$^\circ C$
T_{JM}		150	$^\circ C$
T_{stg}		-55 ... +150	$^\circ C$
T_L	1.6mm (0.062) from Case for 10s	300	$^\circ C$
T_{SOLD}	Plastic Body for 10s	260	$^\circ C$
M_d	Mounting Torque (TO-220)	1.13 / 10	Nm/lb.in.
Weight	TO-263	2.5	g
	TO-220	3.0	g

Features

- International Standard Packages
- Avalanche Rated
- Low Package Inductance

Advantages

- Easy to Mount
- Space Savings
- High Power Density

Applications

- High Voltage Switched-Mode and Resonant-Mode Power Supplies
- High Voltage Pulse Power Applications
- High Voltage Discharge Circuits in Lasers Pulsers, Spark Igniters, RF Generators
- High Voltage DC-DC Converters
- High Voltage DC-AC Inverters

Symbol	Test Conditions ($T_J = 25^\circ C$, Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
BV_{DSS}	$V_{GS} = 0V$, $I_D = 250\mu A$	1200		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 50\mu A$	2.0		V
I_{GSS}	$V_{GS} = \pm 20V$, $V_{DS} = 0V$			± 50 nA
I_{DSS}	$V_{DS} = V_{DSS}$, $V_{GS} = 0V$ $T_J = 125^\circ C$			3 μA 125 μA
$R_{DS(on)}$	$V_{GS} = 10V$, $I_D = 0.5 \cdot I_{D25}$, Note 1	27	34	Ω

Fig. 1. Output Characteristics @ 25°C

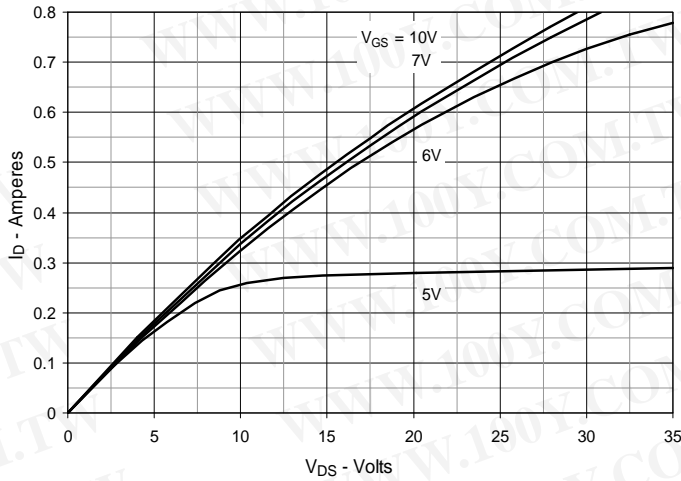


Fig. 2. Output Characteristics @ 125°C

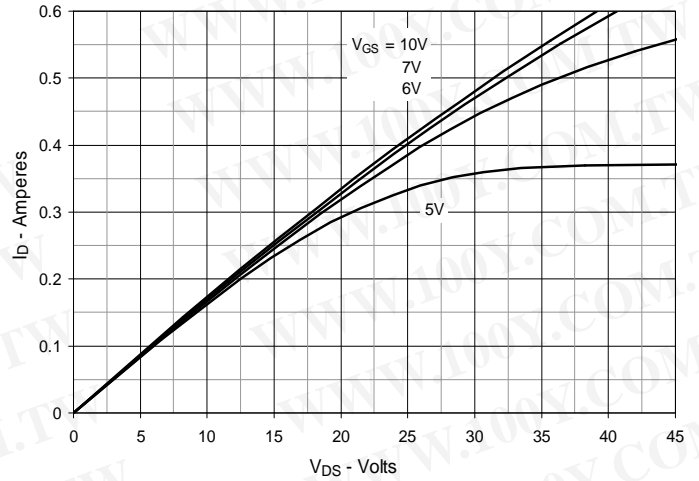


Fig. 3. $R_{DS(on)}$ Normalized to $I_D = 0.3\text{A}$ Value vs. Junction Temperature

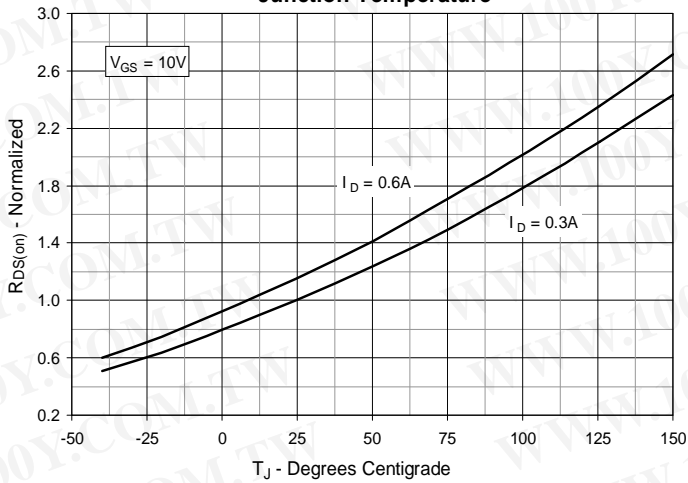


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 0.3\text{A}$ Value vs. Drain Current

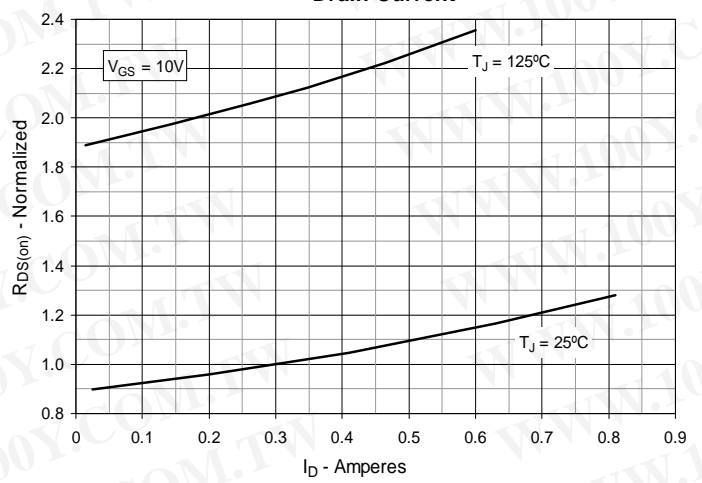


Fig. 5. Maximum Drain Current vs. Case Temperature

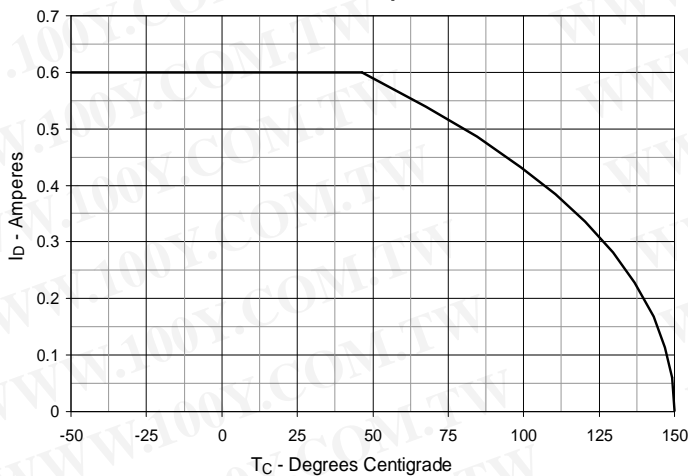


Fig. 6. Input Admittance

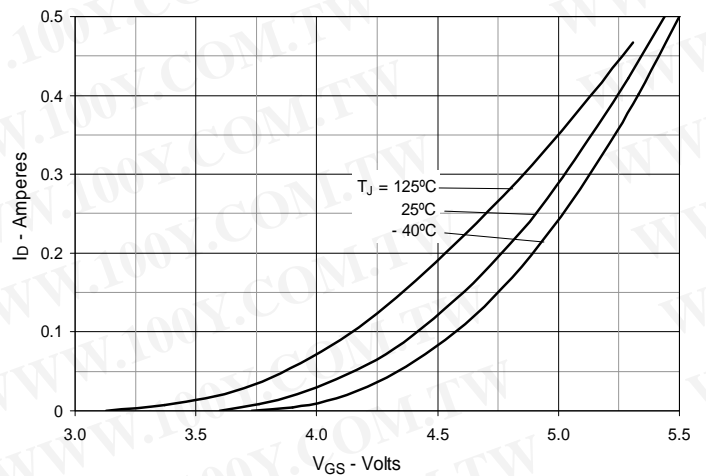


Fig. 7. Transconductance

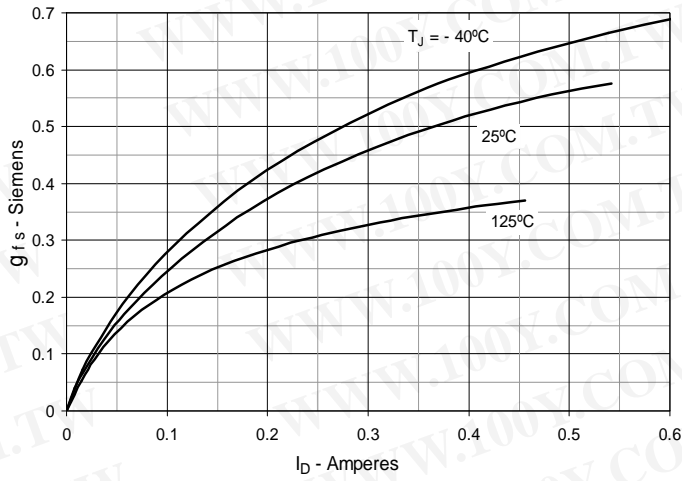


Fig. 8. Forward Voltage Drop of Intrinsic Diode

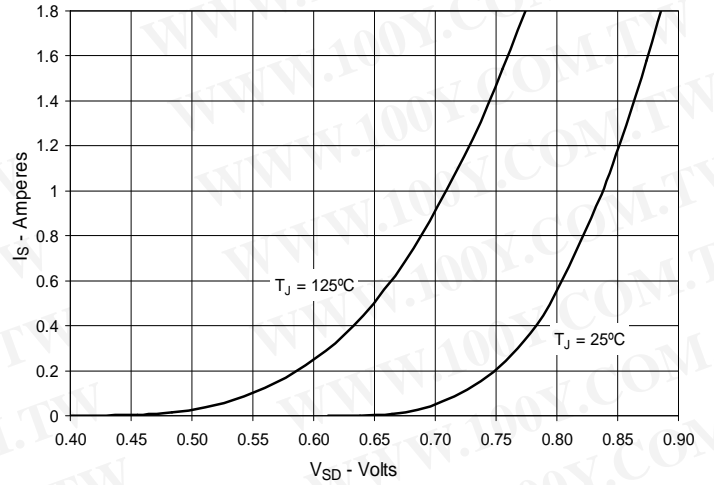


Fig. 9. Gate Charge

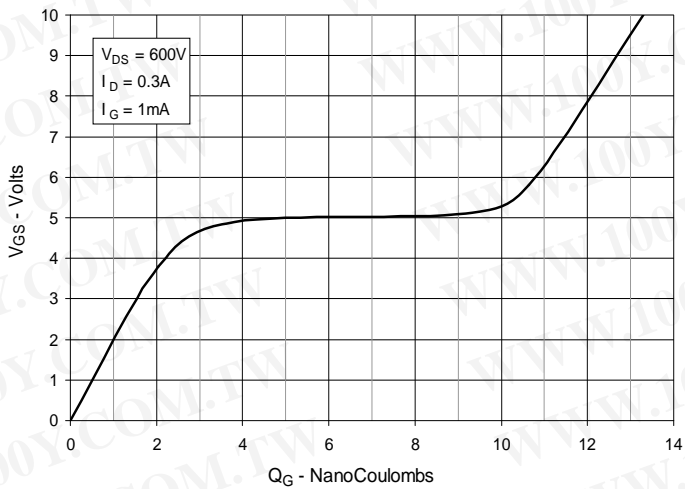


Fig. 10. Capacitance

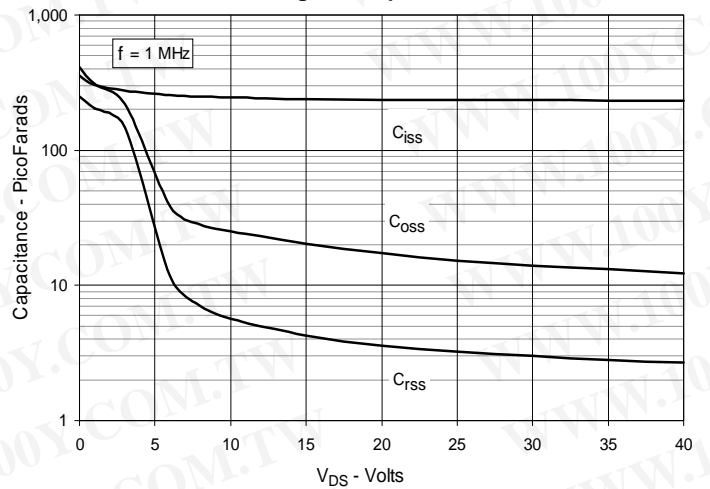


Fig. 11. Maximum Transient Thermal Impedance



IXYS Reserves The Right to Change Limits, Test Conditions, and Dimensions.