

PolarHV™ Power MOSFET

IXTA 3N60P
IXTP 3N60P
IXTY 3N60P

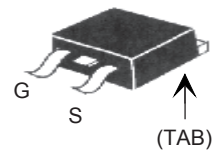
V_{DSS} = 600 V
I_{D25} = 3.0 A
R_{DS(on)} ≤ 2.9 Ω

N-Channel Enhancement Mode
Avalanche Rated

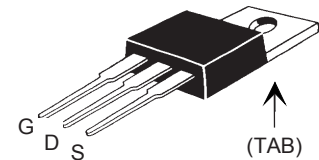


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T _J = 25° C to 150° C	600	V
V_{DGR}	T _J = 25° C to 150° C; R _{GS} = 1 MΩ	600	V
V_{GS}	Continuous	± 30	V
V_{GSM}	Transient	± 40	V
I_{D25}	T _C = 25° C	3.0	A
I_{DM}	T _C = 25° C, pulse width limited by T _{JM}	6	A
I_{AR}	T _C = 25° C	3	A
E_{AR}	T _C = 25° C	10	mJ
E_{AS}	T _C = 25° C	100	mJ
dv/dt	I _S ≤ I _{DM} , di/dt ≤ 100 A/μs, V _{DD} ≤ V _{DSS} T _J ≤ 150° C, R _G = 30 Ω	5	V/ns
P_D	T _C = 25° C	70	W
T_J		-55 ... +150	°C
T_{JM}		150	°C
T_{stg}		-55 ... +150	°C
T_L	1.6 mm (0.062 in.) from case for 10 s	300	°C
T_{SOLD}	Plastic body for 10 s	260	°C
Weight	TO-220	4	g
	TO-263	3	g
	TO-252	0.35	g

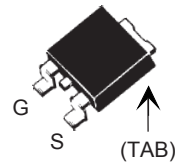
TO-263 (IXTA)



TO-220 (IXTP)



TO-252 (IXTY)



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

Symbol	Test Conditions (T _J = 25° C unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
BV_{DSS}	V _{GS} = 0 V, I _D = 250 μA	600		V
V_{GS(th)}	V _{DS} = V _{GS} , I _D = 50 μA	3.0		5.5 V
I_{GSS}	V _{GS} = ± 30 V _{DC} , V _{DS} = 0			± 100 nA
I_{DSS}	V _{DS} = V _{DSS} V _{GS} = 0 V T _J = 125° C			5 μA 50 μA
R_{DS(on)}	V _{GS} = 10 V, I _D = 0.5 I _{D25} , Note 1			2.9 Ω

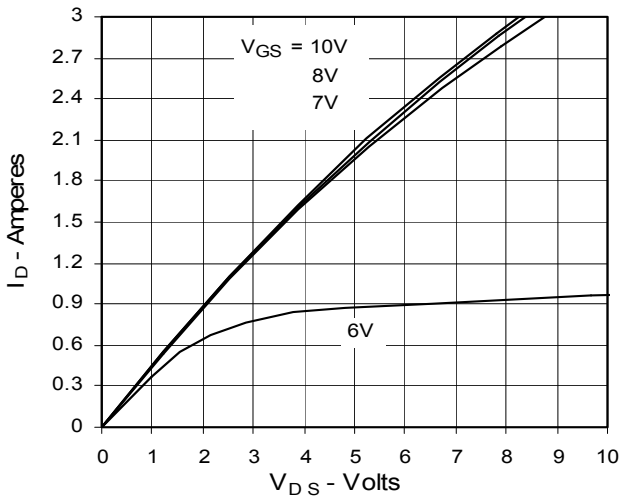
Features

- † International standard packages
- † Unclamped Inductive Switching (UIS) rated
- † Low package inductance
- easy to drive and to protect

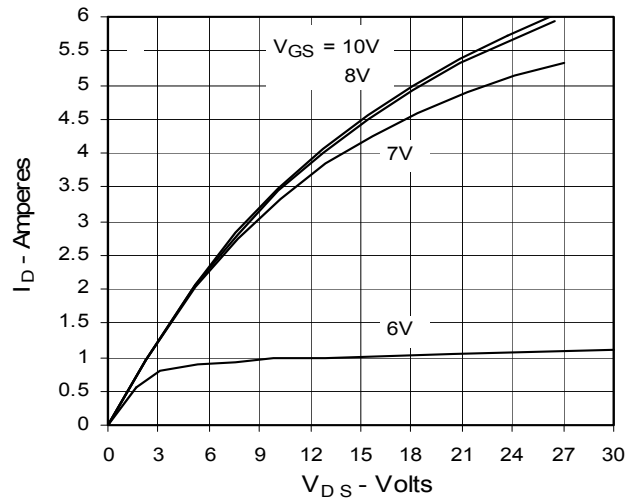
Advantages

- † Easy to mount
- † Space savings
- † High power density

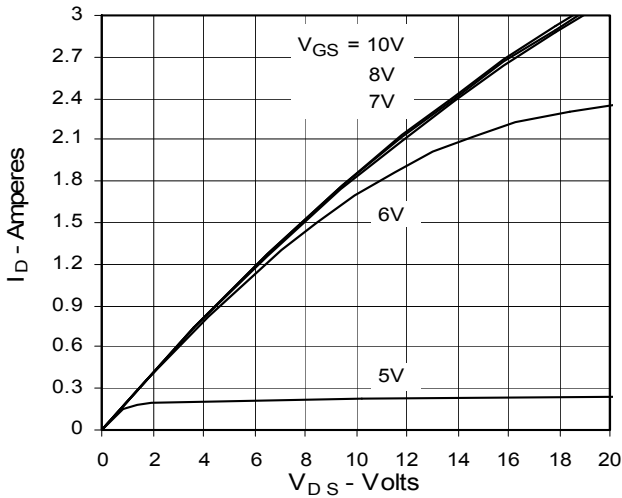
**Fig. 1. Output Characteristics
@ 25°C**



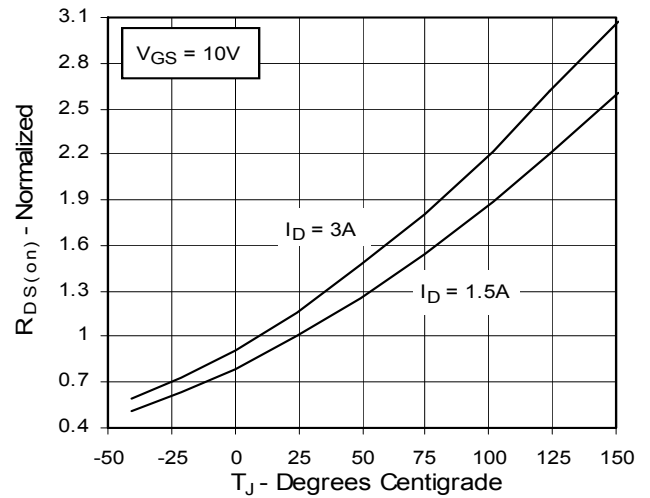
**Fig. 2. Extended Output Characteristics
@ 25°C**



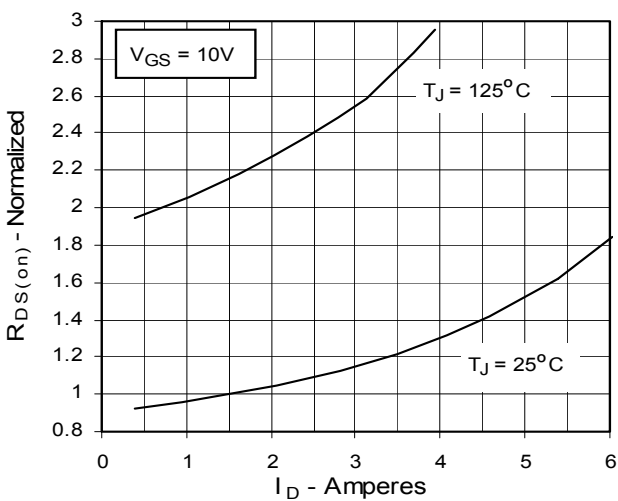
**Fig. 3. Output Characteristics
@ 125°C**



**Fig. 4. $R_{DS(on)}$ Normalized to 0.5 I_{D25}
Value vs. Junction Temperature**



**Fig. 5. $R_{DS(on)}$ Normalized to
0.5 I_{D25} Value vs. I_D**



**Fig. 6. Drain Current vs. Case
Temperature**

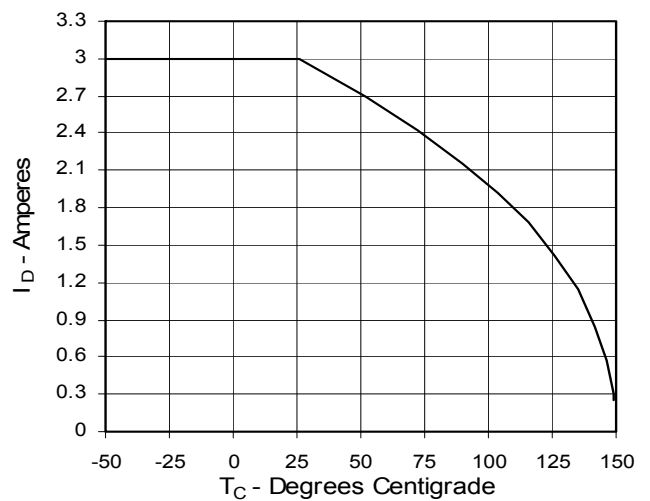


Fig. 7. Input Admittance

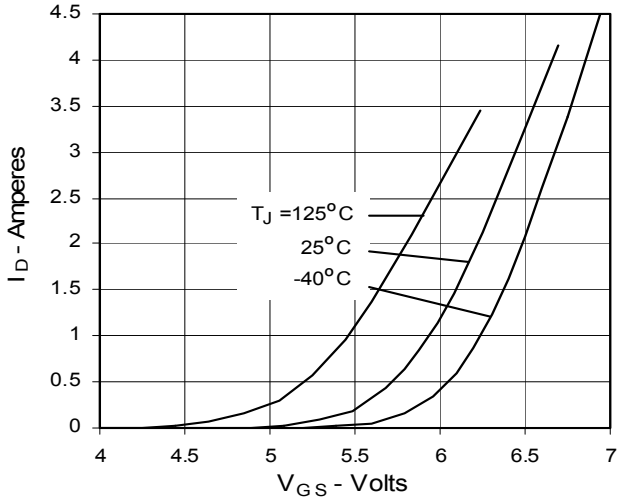


Fig. 8. Transconductance

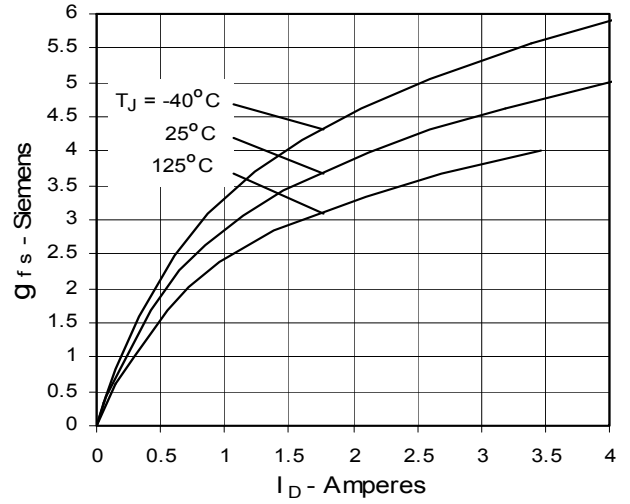


Fig. 9. Source Current vs. Source-To-Drain Voltage

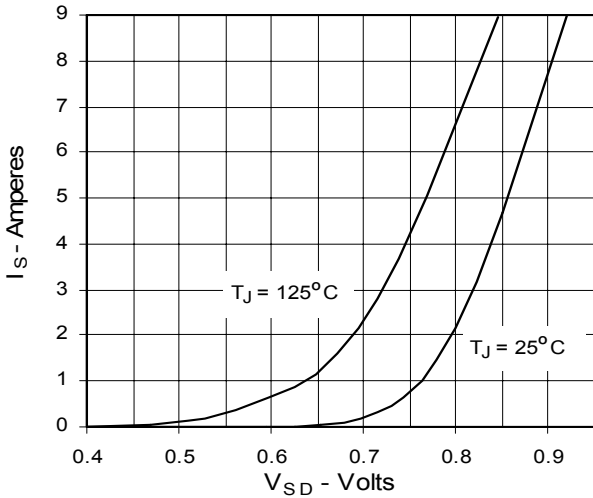


Fig. 10. Gate Charge

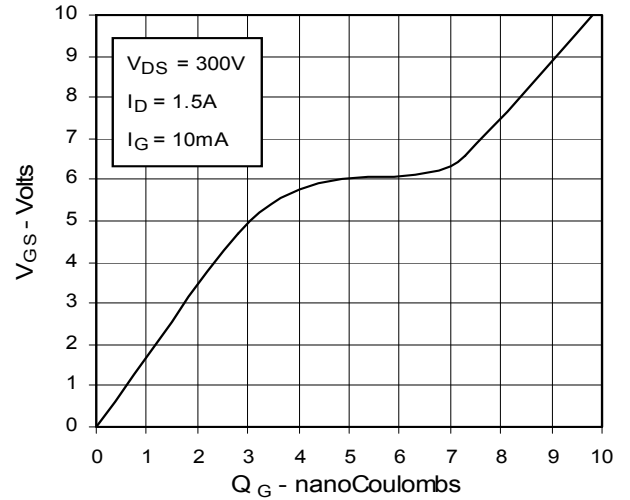


Fig. 11. Capacitance

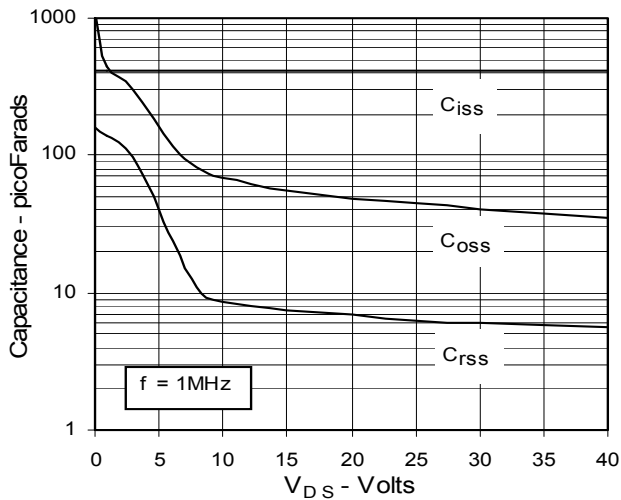


Fig. 13. Maximum Transient Thermal Resistance

