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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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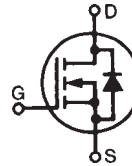


PolarHV™ HiPerFET Power MOSFET

N-Channel Enhancement Mode
Avalanche Rated
Fast Intrinsic Diode

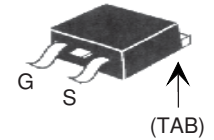
IXFA 7N80P
IXFI 7N80P
IXFP 7N80P

$V_{DSS} = 800 \text{ V}$
 $I_{D25} = 7 \text{ A}$
 $R_{DS(on)} \leq 1.44 \text{ } \Omega$
 $t_{rr} \leq 250 \text{ ns}$

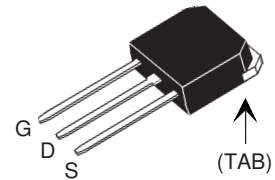


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 175°C	800	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 175°C ; $R_{GS} = 1 \text{ M}\Omega$	800	V
V_{GS}	Continuous	± 30	V
V_{GSM}	Transient	± 40	V
I_{D25}	$T_C = 25^\circ\text{C}$	7	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	18	A
I_{AR}	$T_C = 25^\circ\text{C}$	4	A
E_{AR}	$T_C = 25^\circ\text{C}$	20	mJ
E_{AS}	$T_C = 25^\circ\text{C}$	300	mJ
dv/dt	$I_S \leq I_{DM}$, $di/dt \leq 100 \text{ A}/\mu\text{s}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 150^\circ\text{C}$, $R_G = 10 \text{ } \Omega$	10	V/ns
P_D	$T_C = 25^\circ\text{C}$	200	W
T_J		-55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-55 ... +150	$^\circ\text{C}$
T_L	1.6 mm (0.062 in.) from case for 10 s	300	$^\circ\text{C}$
T_{SOLD}	Plastic body for 10 s	260	$^\circ\text{C}$
M_d	Mounting torque (TO-220, TO-3P)	1.13/10	Nm/lb.in.
Weight	TO-220	3	g
	TO-263	2.5	g

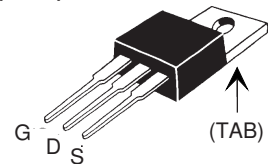
TO-263 (IXFA)



Leaded TO-263 (IXFI)



TO-220 (IXFP)



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

Symbol	Test Conditions	Characteristic Values		
		Min.	Typ.	Max.
BV_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 250 \mu\text{A}$	800		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 1 \text{ mA}$	3.0		5.0 V
I_{GSS}	$V_{GS} = \pm 30 \text{ V}$, $V_{DS} = 0 \text{ V}$			$\pm 100 \text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$ $V_{GS} = 0 \text{ V}$ $T_J = 125^\circ\text{C}$			25 μA
				500 μA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 0.5 I_{D25}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2 \%$			1.44 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

Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		Min.	Typ.	Max.
g_{fs}	V _{DS} = 20 V; I _D = 0.5 I _{D25} , pulse test	5	9.5	S
C_{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz		1890	pF
C_{oss}			133	pF
C_{rss}			13	pF
t_{d(on)}	V _{GS} = 10 V, V _{DS} = 0.5 V _{DSS} , I _D = 4 A R _G = 10 Ω (External)		28	ns
t_r			32	ns
t_{d(off)}			55	ns
t_f			24	ns
Q_{g(on)}	V _{GS} = 10 V, V _{DS} = 0.5 V _{DSS} , I _D = 0.5 I _{D25}		32	nC
Q_{gs}			12	nC
Q_{gd}			9	nC
R_{thJC}				0.62 °C/W
R_{thCS}		0.5		°C/W

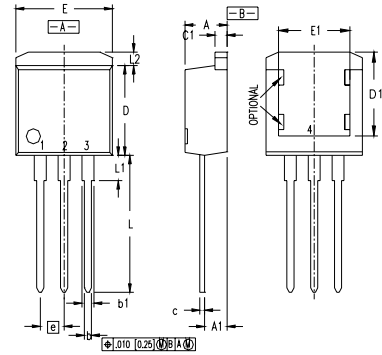
Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		Min.	Typ.	Max.
I_S	V _{GS} = 0 V			7 A
I_{SM}	Repetitive			18 A
V_{SD}	I _F = I _S , V _{GS} = 0 V, Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			1.5 V
t_{rr}	I _F = 7A, -di/dt = 100 A/μs V _R = 100V			250 ns
Q_{RM}			0.3	μC
I_{RM}			3	A

TO-263 (IXFA) Outline

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.160	.190	4.06	4.83
A1	.080	.110	2.03	2.79
b	.020	.039	0.51	0.99
b2	.045	.055	1.14	1.40
c	.016	.029	0.40	0.74
c2	.045	.055	1.14	1.40
D	.340	.380	8.64	9.65
D1	.315	.350	8.00	8.89
E	.380	.410	9.65	10.41
E1	.245	.320	6.22	8.13
e	.100 BSC		2.54 BSC	
L	.575	.625	14.61	15.88
L1	.090	.110	2.29	2.79
L2	.040	.055	1.02	1.40
L3	.050	.070	1.27	1.78
L4	0	.005	0	0.13

1. GATE
2. DRAIN (COLLECTOR)
3. SOURCE (EMITTER)
4. DRAIN (COLLECTOR)
BOTTOM SIDE

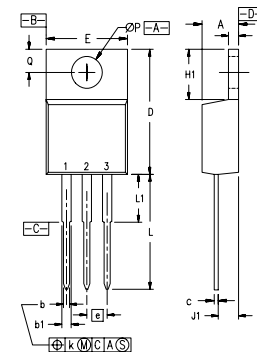
Leaded 263 (IXFI) Outline



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.160	.190	4.06	4.83
A1	.080	.110	2.03	2.79
b	.025	.039	0.51	0.99
b2	.025	.039	1.14	1.40
c	.018	.029	0.46	0.74
c2	.018	.029	1.14	1.40
D	.340	.380	8.64	9.65
D1	.315	.350	8.00	8.89
E	.380	.405	9.65	10.29
E1	.245	.320	6.22	8.13
e	.100 BSC		2.54 BSC	
L	.500	.580	14.61	15.88
L1	.080	.130	2.29	2.79
L2	.040	.055	1.02	1.40

NOTE: This drawing will meet all dimensions requirement of JEDEC outline TO-262 AA.

TO-220 (IXFP) Outline



Pins: 1 - Gate 2 - Drain
3 - Source 4 - Drain

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.170	.190	4.32	4.83
b	.025	.040	0.64	1.02
b1	.045	.065	1.15	1.65
c	.014	.022	0.35	0.56
D	.580	.630	14.73	16.00
E	.390	.420	9.91	10.66
e	.100 BSC		2.54 BSC	
F	.045	.055	1.14	1.40
H1	.230	.270	5.85	6.85
J1	.090	.110	2.29	2.79
k	0	.015	0	0.38
L	.500	.550	12.70	13.97
L1	.110	.230	2.79	5.84
ØP	.139	.161	3.53	4.08
Q	.100	.125	2.54	3.18

IXYS reserves the right to change limits, test conditions, and dimensions.

IXYS MOSFETs and IGBTs are covered by	4,835,592	4,931,844	5,049,961	5,237,481	6,162,665	6,404,065 B1	6,683,344	6,727,585	7,005,734 B2
one or more of the following U.S. patents:	4,850,072	5,017,508	5,063,307	5,381,025	6,259,123 B1	6,534,343	6,710,405 B2	6,759,692	7,063,975 B2
	4,881,106	5,034,796	5,187,117	5,486,715	6,306,728 B1	6,583,505	6,710,463	6,771,478 B2	7,071,537

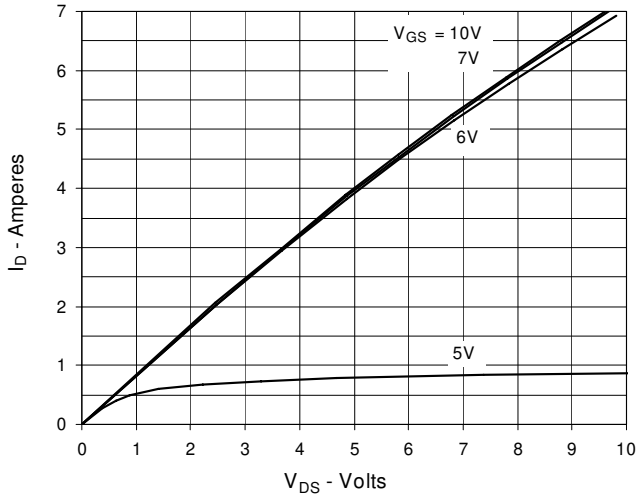
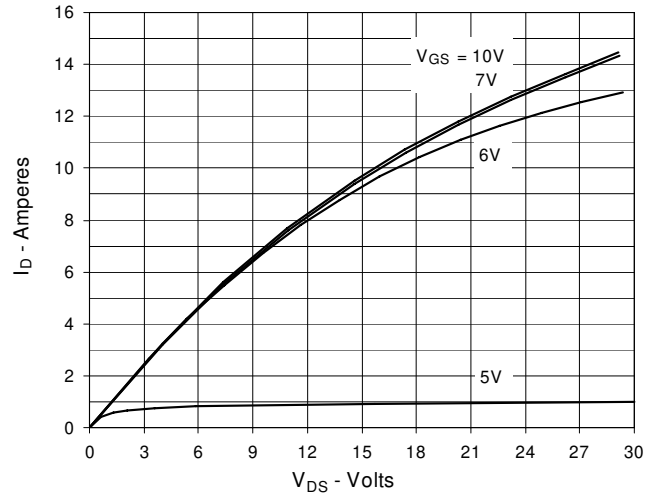
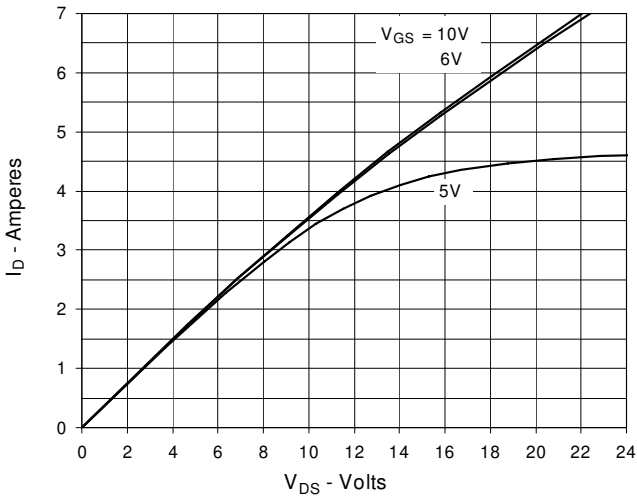
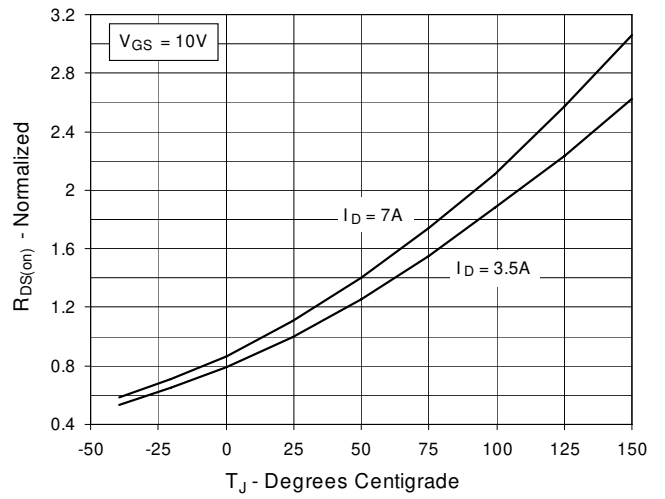
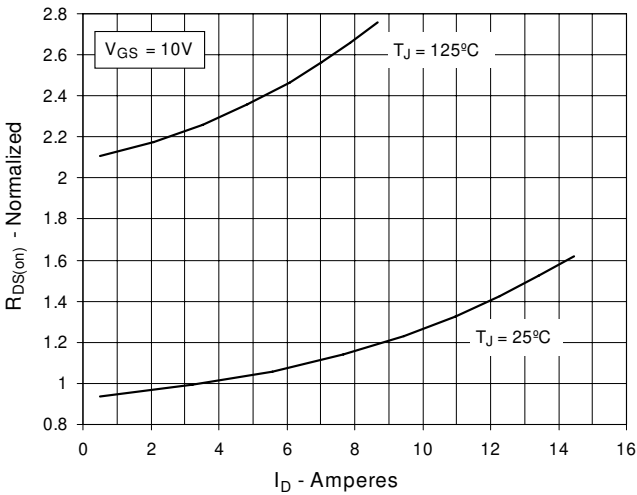
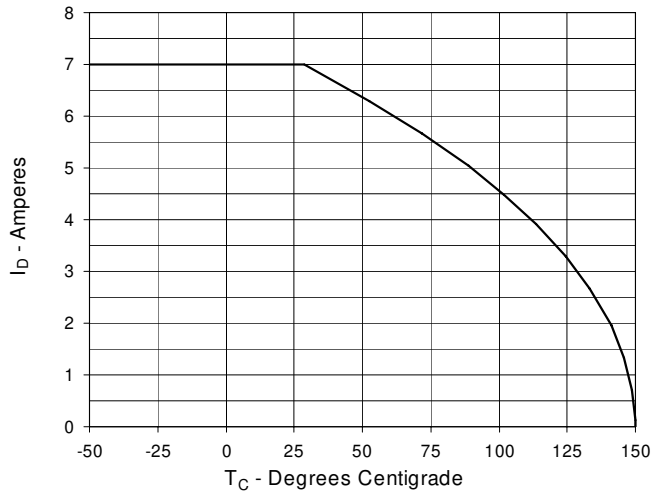
**Fig. 1. Output Characteristics
@ 25°C**

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

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

**Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 3.5A$ Value
vs. Junction Temperature**

**Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 3.5A$ Value
vs. Drain Current**

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


Fig. 7. Input Admittance

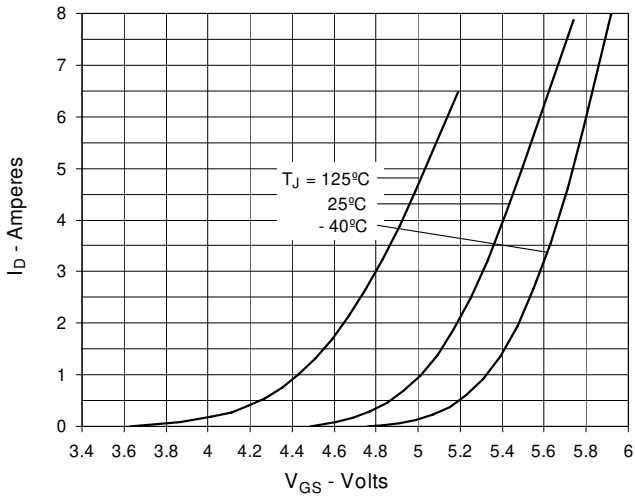


Fig. 8. Transconductance

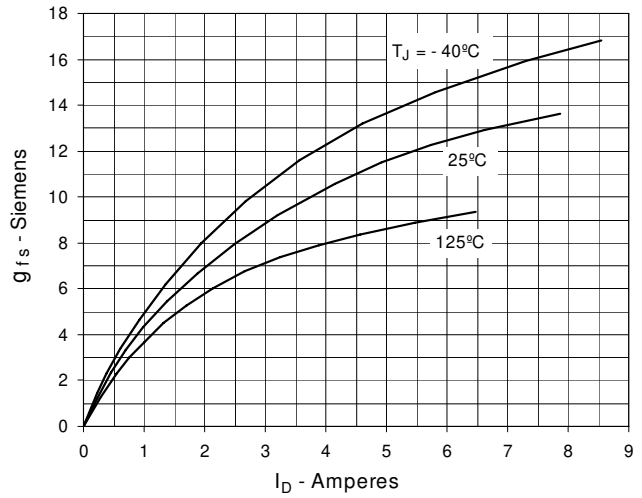


Fig. 9. Forward Voltage Drop of Intrinsic Diode

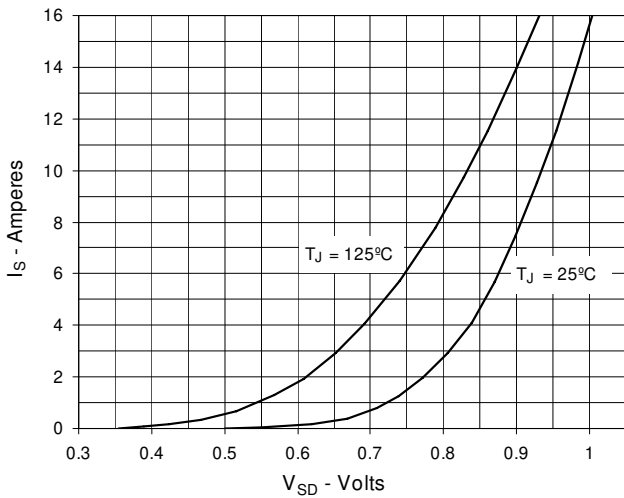


Fig. 10. Gate Charge

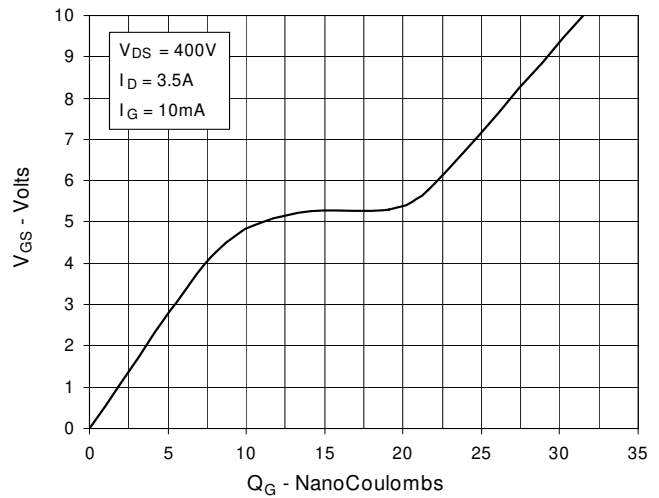


Fig. 11. Capacitance

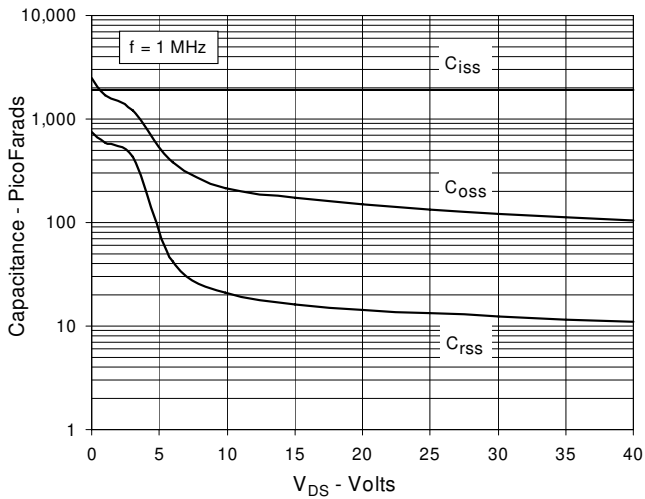


Fig. 12. Maximum Transient Thermal Resistance

