Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

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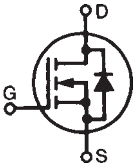
IXYS

PolarHV™ Power MOSFET

N-Channel Enhancement Mode
Fast Recovery Diode
Avalanche Rated

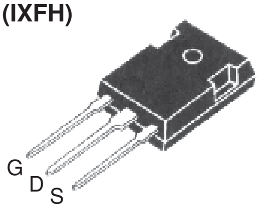
IXFH 16N80P
IXFT 16N80P
IXFV 16N80P
IXFV 16N80PS

V_{DSS} = 800 V
I_{D25} = 16 A
$R_{DS(on)} \leq 600$ mΩ
$t_{rr} \leq 250$ ns

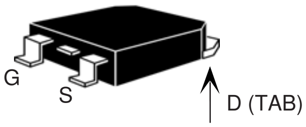


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C	800	V
V_{DGR}	T_J = 25°C to 150°C; R_{GS} = 1 MΩ	800	V
V_{GSS}	Continuous	±30	V
V_{GSM}	Transient	±40	V
I_{D25}	T_C = 25°C	16	A
I_{DM}	T_C = 25°C, pulse width limited by T_{JM}	40	A
I_{AR}	T_C = 25°C	8	A
E_{AR}	T_C = 25°C	30	mJ
E_{AS}	T_C = 25°C	1.0	J
dv/dt	$I_S \leq I_{DM}$, di/dt ≤ 100 A/µs, $V_{DD} \leq V_{DSS}$ $T_J \leq 150$°C, R_G = 5 Ω	10	V/ns
P_D	T_C = 25°C	460	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
M_d	Mounting torque (TO-247)	1.13/10	Nm/lb.in.
F_C	Mounting force (PLUS220)	11..65/2.5..15	N/lb
Weight	TO-247	6.0	g
	TO-268	5.0	g
	PLUS220 & PLUS220SMD	4.0	g

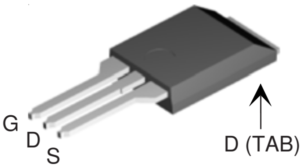
TO-247 (IXFH)



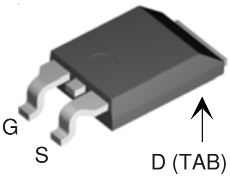
TO-268 (IXFT)



PLUS220 (IXFV)



PLUS220SMD (IXFV...S)



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		800			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = 4 mA		3.0		5.0	V
I_{GSS}	V_{GS} = ±30 V, V_{DS} = 0 V				±100	nA
I_{DSS}	$V_{DS} = V_{DSS}$				25	µA
	V_{GS} = 0 V	T_J = 125°C			250	µA
$R_{DS(on)}$	V_{GS} = 10 V, I_D = 0.5 I_{D25} Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %				600	mΩ

Features

- Fast Recovery diode
- Unclamped Inductive Switching (UIS) rated
- International standard packages
- 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	9	16		S
C_{iss}	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz		4600		pF
C_{oss}			330		pF
C_{rss}			23		pF
$t_{d(on)}$	V_{GS} = 10 V, V_{DS} = $V_{DSS,}$ I_D = 0.5 I_{D25} R_G = 5 Ω (External)		27		ns
t_r			32		ns
$t_{d(off)}$			75		ns
t_f			29		ns
$Q_{g(on)}$	V_{GS} = 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}		71		nC
Q_{gs}			21		nC
Q_{gd}			23		nC
R_{thJC}				0.27	°C/W
R_{thCS}	(TO-247)		0.21		°C/W

Source-Drain Diode		Characteristic Values ($T_J = 25°C$, unless otherwise specified)			
Symbol	Test Conditions	Min.	Typ.	Max.	
I_S	V_{GS} = 0 V			16	A
I_{SM}	Repetitive			48	A
V_{SD}	I_F = I_S, V_{GS} = 0 V, pulse test			1.5	V
t_{rr}	I_F = 25A, -di/dt = 100 A/µs V_R = 100V; V_{GS} = 0 V		150	250	ns
I_{RM}			7		A
Q_{RM}			0.7		µC

Fig. 1. Output Characteristics @ 25ºC

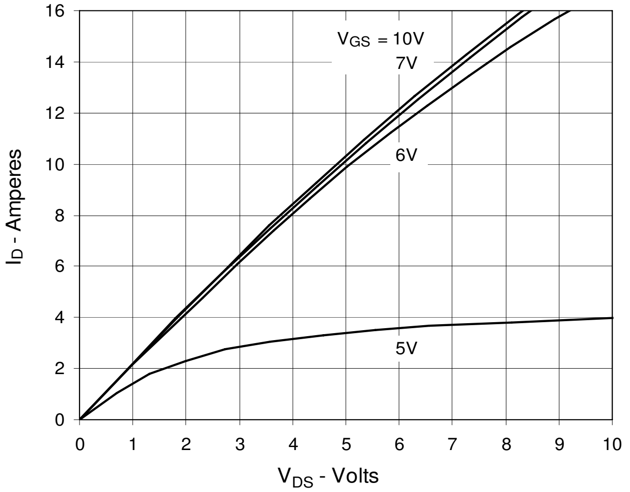


Fig. 2. Extended Output Characteristics @ 25ºC

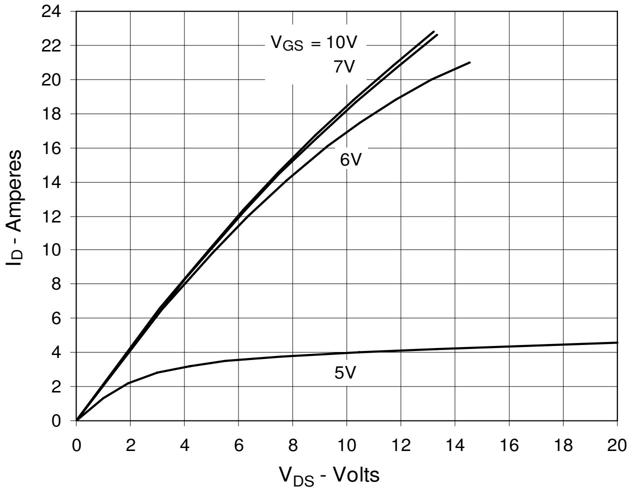


Fig. 3. Output Characteristics @ 125ºC

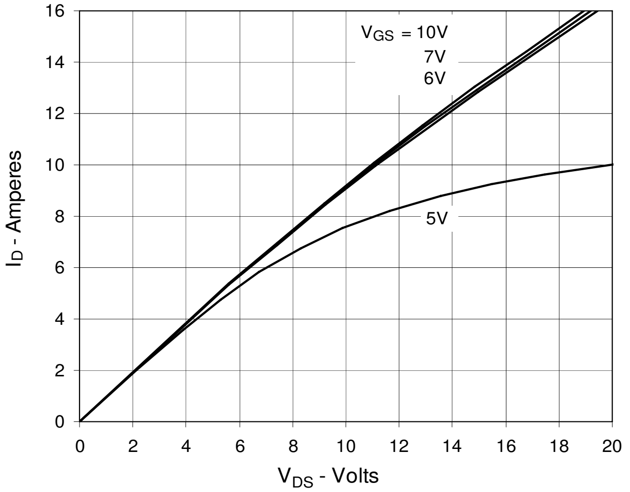


Fig. 4. $R_{DS(on)}$ Normalized to I_D = 8A Value vs. Junction Temperature

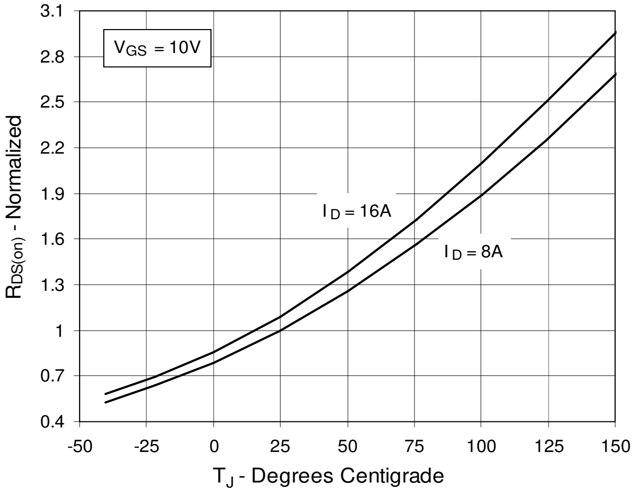


Fig. 5. $R_{DS(on)}$ Normalized to I_D = 8A Value vs. Drain Current

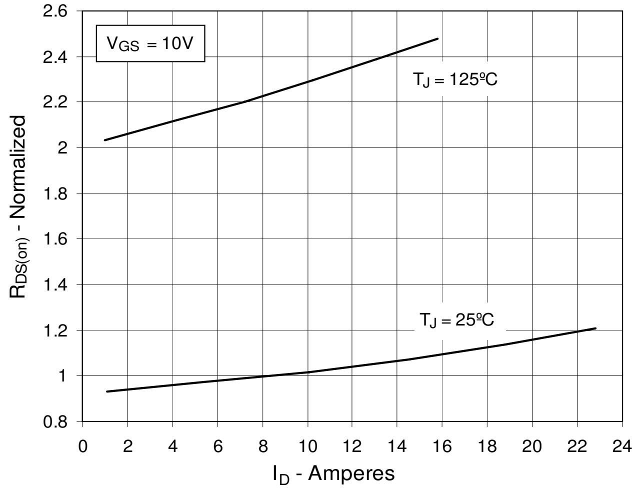
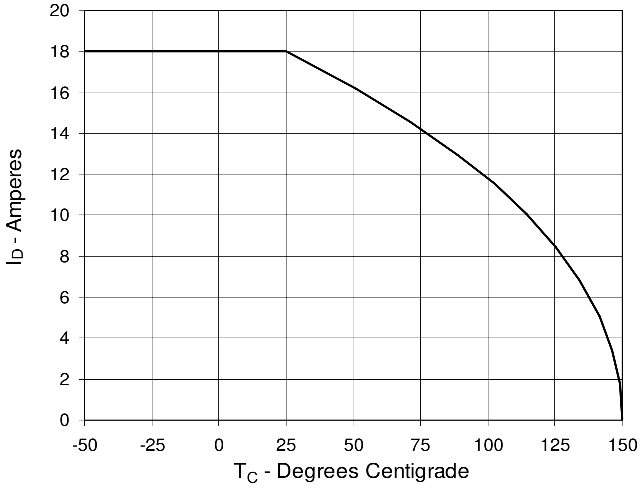


Fig. 6. Maximum Drain Current vs. Case Temperature



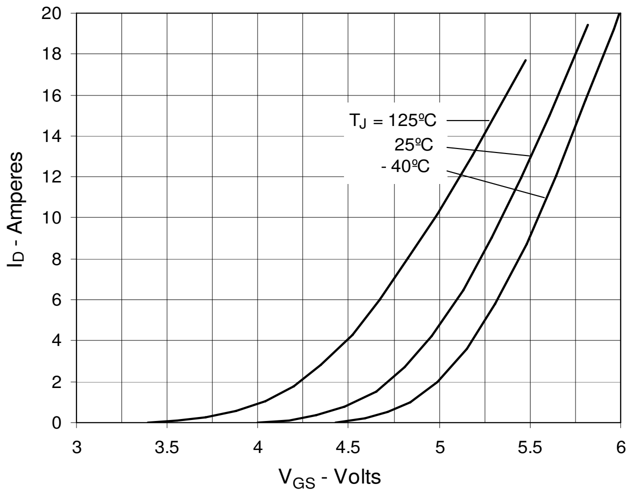


Fig. 7. Input Admittance

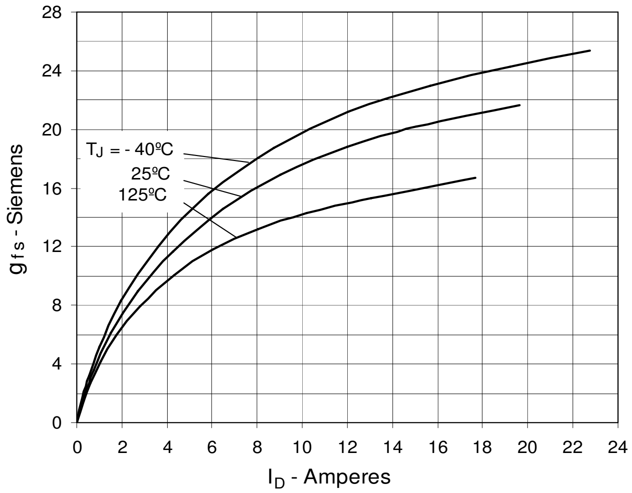


Fig. 8. Transconductance

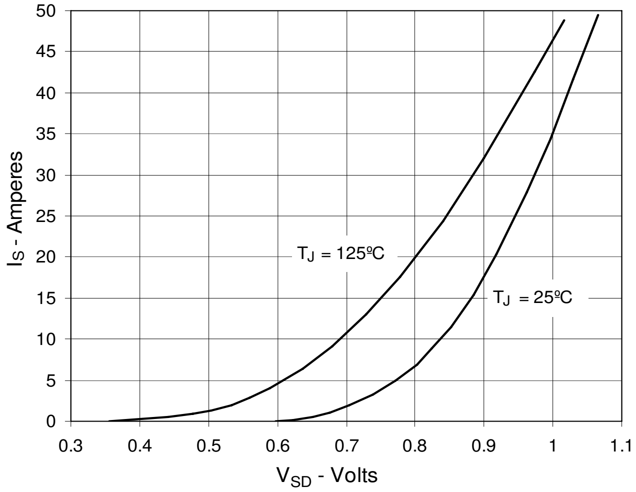


Fig. 9. Forward Voltage Drop of Intrinsic Diode

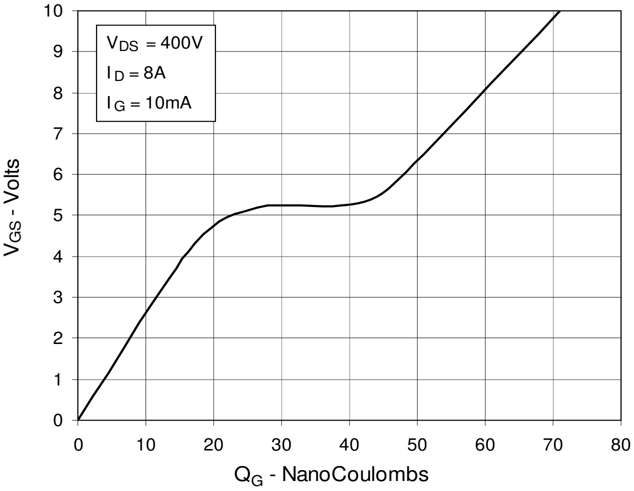


Fig. 10. Gate Charge

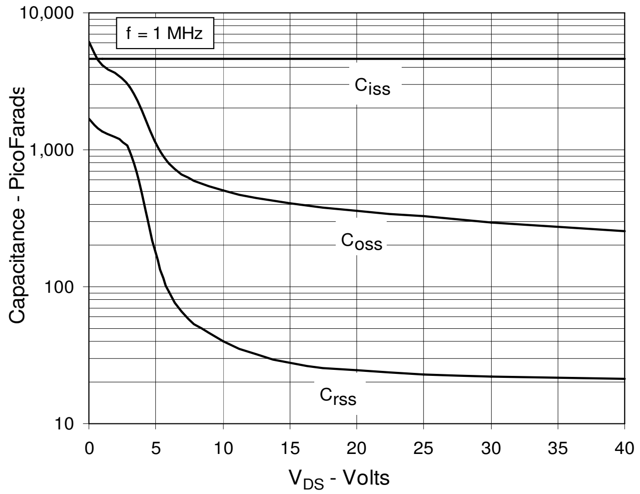


Fig. 11. Capacitance

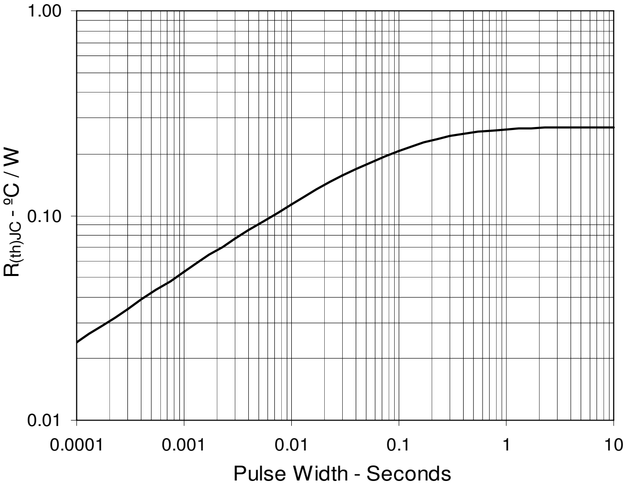
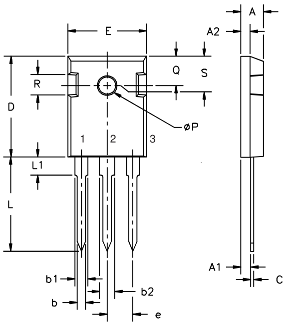


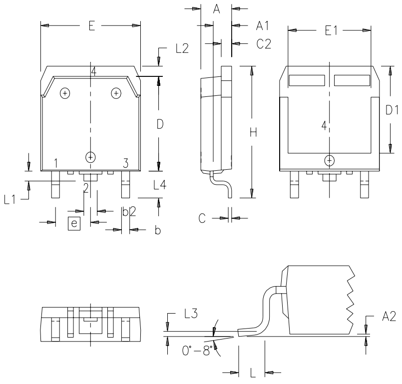
Fig. 12. Maximum Transient Thermal Resistance

TO-247 AD (IXFH) Outline



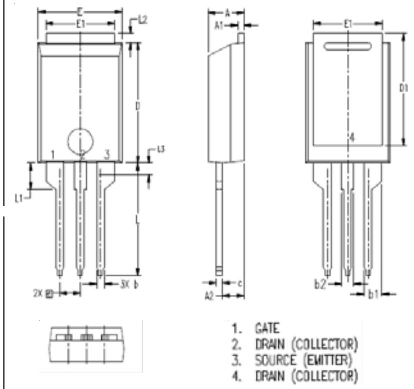
Dim.	Millimeter Min.	Millimeter Max.	Inches Min.	Inches Max.
A	4.7	5.3	.185	.209
A_1	2.2	2.54	.087	.102
A_2	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b_1	1.65	2.13	.065	.084
b_2	2.87	3.12	.113	.123
C	.4	.8	.016	.031
D	20.80	21.46	.819	.845
E	15.75	16.26	.610	.640
e	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
∅P	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15 BSC		242 BSC	

TO-268 (IXFT) Outline



SYM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	.193	.201	4.90	5.10
A1	.106	.114	2.70	2.90
A2	.001	.010	0.02	0.25
b	.045	.057	1.15	1.45
b2	.075	.083	1.90	2.10
C	.016	.026	0.40	0.65
C2	.057	.063	1.45	1.60
D	.543	.551	13.80	14.00
D1	.488	.500	12.40	12.70
E	.624	.632	15.85	16.05
E1	.524	.535	13.30	13.60
e	.215 BSC		5.45 BSC	
H	.736	.752	18.70	19.10
L	.094	.106	2.40	2.70
L1	.047	.055	1.20	1.40
L2	.039	.045	1.00	1.15
L3	.010 BSC		0.25 BSC	
L4	.150	.161	3.80	4.10

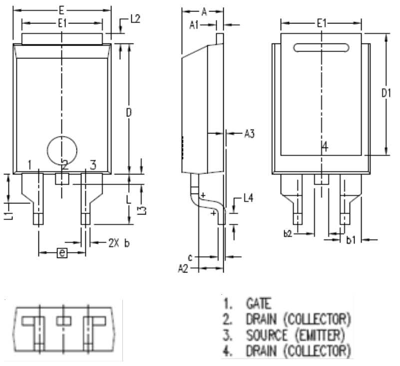
PLUS220 (IXFV) Outline



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

SYM	INCHES MIN	INCHES MAX	MILLIMETER MIN	MILLIMETER MAX
A	.169	.185	4.30	4.70
A1	.028	.035	0.70	0.90
A2	.098	.118	2.50	3.00
b	.035	.047	0.90	1.20
b1	.080	.095	2.03	2.41
b2	.054	.064	1.37	1.63
c	.028	.035	0.70	0.90
D	.551	.591	14.00	15.00
D1	.512	.539	13.00	13.70
E	.394	.433	10.00	11.00
E1	.331	.346	8.40	8.80
e	.100 BSC		2.54 BSC	
L	.512	.551	13.00	14.00
L1	.118	.138	3.00	3.50
L2	.035	.051	0.90	1.30
L3	.047	.059	1.20	1.50

PLUS220SMD (IXFV_S) Outline



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

SYM	INCHES MIN	INCHES MAX	MILLIMETER MIN	MILLIMETER MAX
A	.169	.185	4.30	4.70
A1	.028	.035	0.70	0.90
A2	.098	.118	2.50	3.00
A3	.000	.010	0.00	0.25
b	.035	.047	0.90	1.20
b1	.080	.095	2.03	2.41
b2	.054	.064	1.37	1.63
c	.028	.035	0.70	0.90
D	.551	.591	14.00	15.00
D1	.512	.539	13.00	13.70
E	.394	.433	10.00	11.00
E1	.331	.346	8.40	8.80
e	.200BSC		5.08 BSC	
L	.209	.228	5.30	5.80
L1	.118	.138	3.00	3.50
L2	.035	.051	0.90	1.30
L3	.047	.059	1.20	1.50
L4	.039	.059	1.00	1.50