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.

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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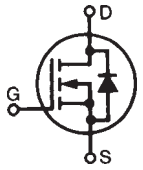
IXYS

Polar™ Power MOSFET
HiPerFET™

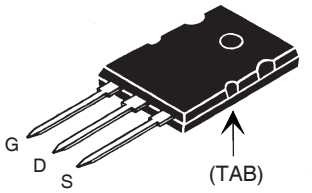
IXFK26N100P
IXFX26N100P

V_{DSS} = 1000V
I_{D25} = 26A
$R_{DS(on)}$ ≤ 390mΩ
t_{rr} ≤ 300ns

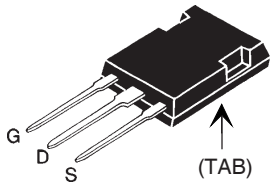
N-Channel Enhancement Mode
Avalanche Rated
Fast Intrinsic Diode



TO-264 (IXFK)



PLUS247 (IXFX)



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

Symbol	Test Conditions		Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C		1000	V
V_{DGR}	T_J = 25°C to 150°C, R_{GS} = 1MΩ		1000	V
V_{GSS}	Continuous		± 30	V
V_{GSM}	Transient		± 40	V
I_{D25}	T_C = 25°C		26	A
I_{DM}	T_C = 25°C, pulse width limited by T_{JM}		65	A
I_{AR}	T_C = 25°C		13	A
E_{AS}	T_C = 25°C		1	J
dV/dt	$I_S \le I_{DM}$, $V_{DD} \le V_{DSS}$, $T_J \le 150°C$		15	V/ns
P_D	T_C = 25°C		780	W
T_J			-55 ... +150	°C
T_{JM}			150	°C
T_{stg}			-55 ... +150	°C
T_L	1.6mm (0.062 in.) from case for 10s		300	°C
T_{SOLD}	Plastic body for 10s		260	°C
M_d	Mounting torque	(IXFK)	1.13/10	Nm/lb.in.
F_C	Mounting force	(IXFX)	20..120 /4.5..27	N/lb.
Weight	TO-264		10	g
	TO-247		6	g

Symbol	Test Conditions	Characteristic Values (T_J = 25°C unless otherwise specified) Min.	Typ.	Max.	
BV_{DSS}	V_{GS} = 0V, I_D = 3mA	1000			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = 1mA	3.5		6.5	V
I_{GSS}	V_{GS} = ± 30V, V_{DS} = 0V			± 200	nA
I_{DSS}	$V_{DS} = V_{DSS}$			25	μA
	V_{GS} = 0V, T_J = 125°C			2	mA
$R_{DS(on)}$	V_{GS} = 10V, $I_D = 0.5 \bullet I_{D25}$, Note 1			390	mΩ

Features
- Fast intrinsic diode
- 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

Applications:
- Switched-mode and resonant-mode power supplies
- DC-DC Converters
- Laser Drivers
- AC and DC motor controls
- Robotics and servo controls

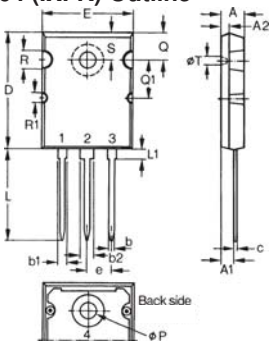
Symbol	Test Conditions (T_J = 25°C unless otherwise specified)	Characteristic Values Min.	Typ.	Max.	
g_{fs}	V_{DS}= 20V, I_D = 0.5 • I_{D25}, Note 1	13	22		S
C_{iss}	V_{GS} = 0V, V_{DS} = 25V, f = 1MHz		11.9		nF
C_{oss}			690		pF
C_{rss}			60		pF
R_{Gi}	Gate input resistance		1.50		Ω
$t_{d(on)}$	**Resistive Switching Times**		45		ns
t_r	V_{GS} = 10V, V_{DS} = 0.5 • V_{DSS}, I_D = 0.5 • I_{D25}		45		ns
$t_{d(off)}$	R_G = 1Ω (External)		72		ns
t_f			50		ns
$Q_{g(on)}$	V_{GS} = 10V, V_{DS} = 0.5 • V_{DSS}, I_D = 0.5 • I_{D25}		197		nC
Q_{gs}			76		nC
Q_{gd}			85		nC
R_{thJC}				0.16	°C/W
R_{thCS}			0.15		°C/W

Source-Drain Diode

Symbol	Test Conditions (T_J = 25°C unless otherwise specified)	Characteristic Values Min.	Typ.	Max.	
I_S	V_{GS} = 0V			26	A
I_{SM}	Repetitive, pulse width limited by T_{JM}			104	A
V_{SD}	I_F = I_S, V_{GS} = 0V, Note 1			1.5	V
t_{rr}	I_F = 13A, -di/dt = 100A/μs			300	ns
Q_{RM}	V_R = 100V, V_{GS} = 0V		1.2		μC
I_{RM}			12		A

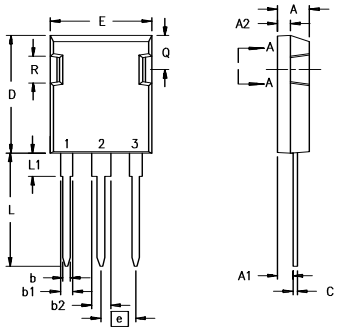
Note 1: Pulse test, t ≤ 300μs; duty cycle, d ≤ 2%.

TO-264 (IXFK) Outline



Dim.	Millimeter Min.	Max.	Inches Min.	Max.
A	4.82	5.13	.190	.202
A1	2.54	2.89	.100	.114
A2	2.00	2.10	.079	.083
b	1.12	1.42	.044	.056
b1	2.39	2.69	.094	.106
b2	2.90	3.09	.114	.122
c	0.53	0.83	.021	.033
D	25.91	26.16	1.020	1.030
E	19.81	19.96	.780	.786
e	5.46 BSC		.215 BSC	
J	0.00	0.25	.000	.010
K	0.00	0.25	.000	.010
L	20.32	20.83	.800	.820
L1	2.29	2.59	.090	.102
P	3.17	3.66	.125	.144
Q	6.07	6.27	.239	.247
Q1	8.38	8.69	.330	.342
R	3.81	4.32	.150	.170
R1	1.78	2.29	.070	.090
S	6.04	6.30	.238	.248
T	1.57	1.83	.062	.072

PLUS 247™ (IXFX) Outline



Terminals: 1 - Gate
2 - Drain (Collector)
3 - Source (Emitter)
4 - Drain (Collector)

Dim.	Millimeter Min.	Max.	Inches Min.	Max.
A	4.83	5.21	.190	.205
A_1	2.29	2.54	.090	.100
A_2	1.91	2.16	.075	.085
b	1.14	1.40	.045	.055
b_1	1.91	2.13	.075	.084
b_2	2.92	3.12	.115	.123
C	0.61	0.80	.024	.031
D	20.80	21.34	.819	.840
E	15.75	16.13	.620	.635
e	5.45 BSC		.215 BSC	
L	19.81	20.32	.780	.800
L1	3.81	4.32	.150	.170
Q	5.59	6.20	.220	0.244
R	4.32	4.83	.170	.190

Fig. 1. Output Characteristics @ 25ºC

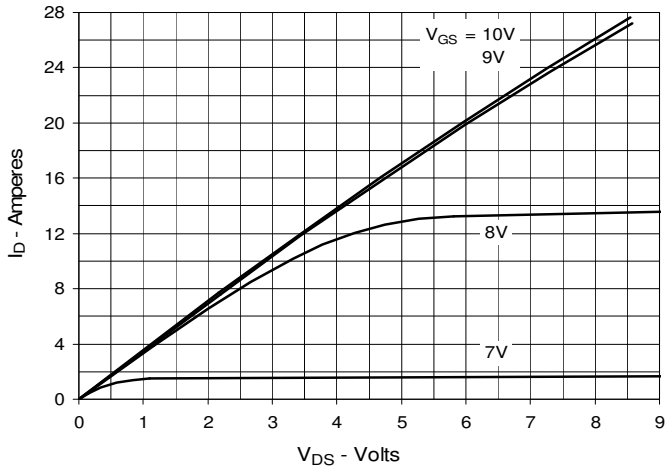


Fig. 2. Extended Output Characteristics @ 25ºC

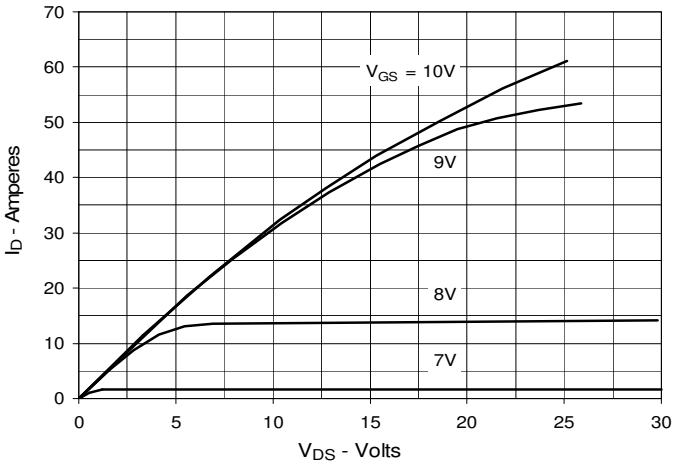


Fig. 3. Output Characteristics @ 125ºC

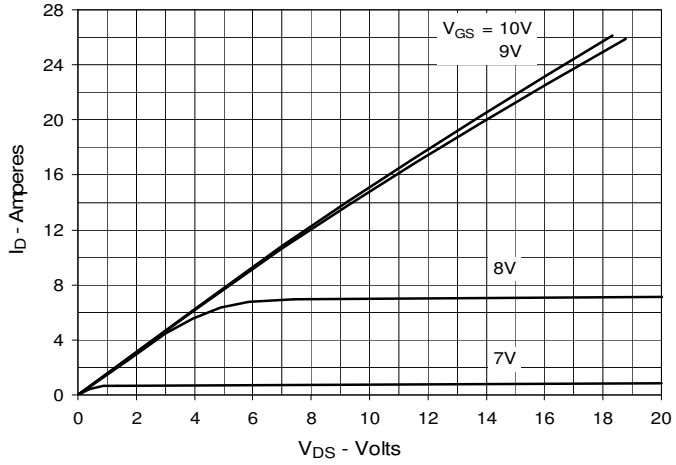


Fig. 4. $R_{DS(on)}$ Normalized to I_D = 13A Value vs. Junction Temperature

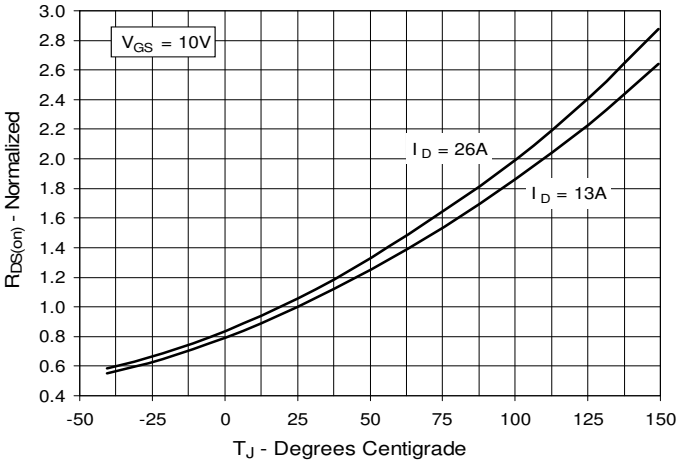


Fig. 5. $R_{DS(on)}$ Normalized to I_D = 13A Value vs. Drain Current

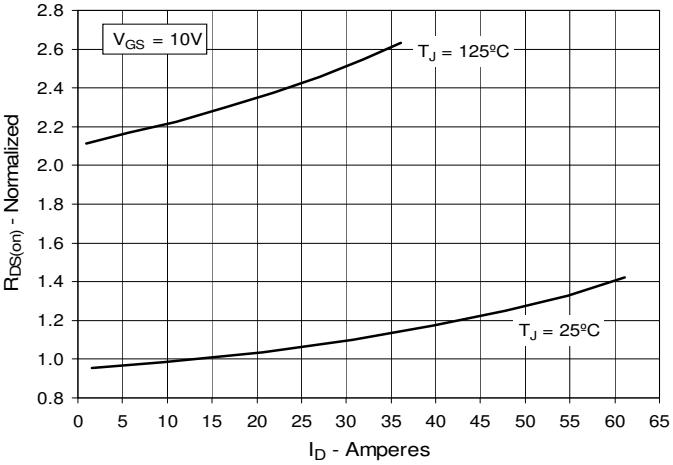


Fig. 6. Maximum Drain Current vs. Case Temperature

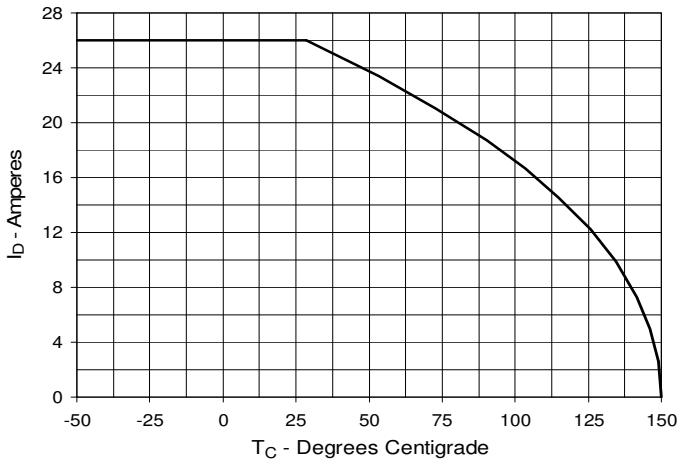


Fig. 7. Input Admittance

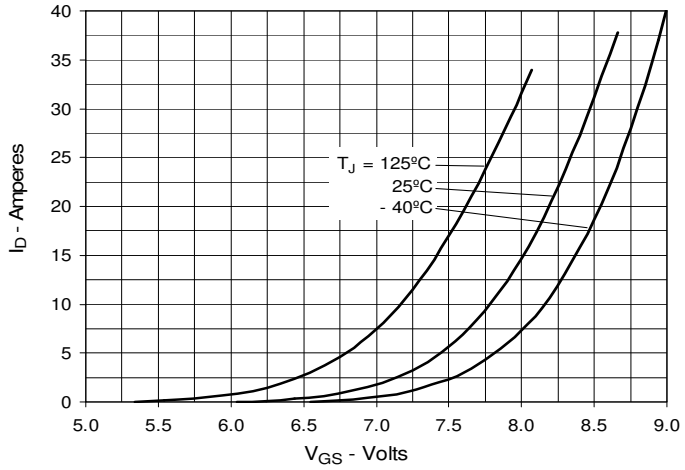


Fig. 8. Transconductance

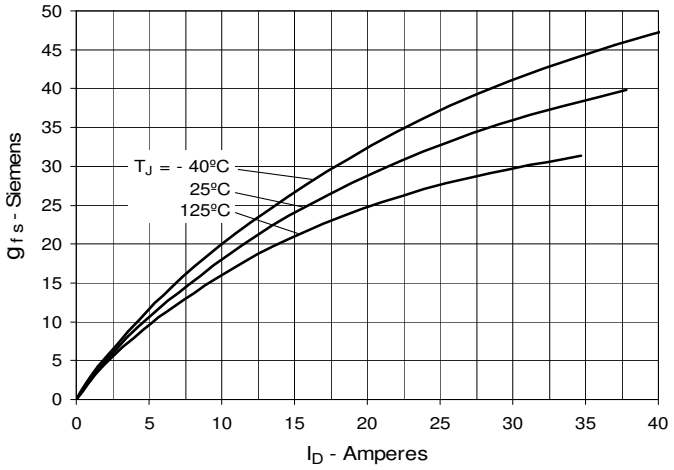


Fig. 9. Forward Voltage Drop of Intrinsic Diode

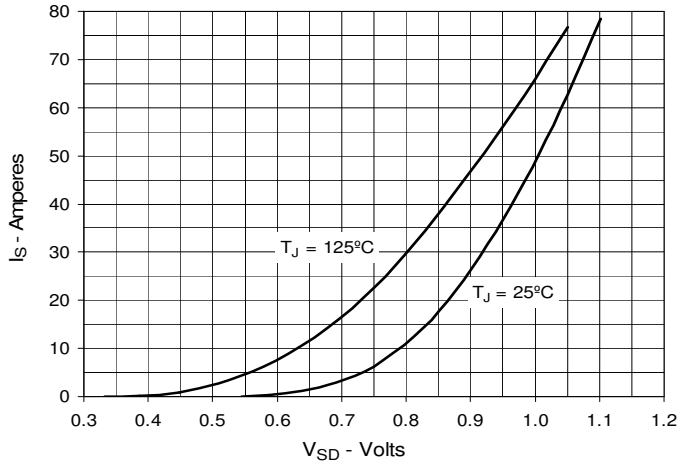


Fig. 10. Gate Charge

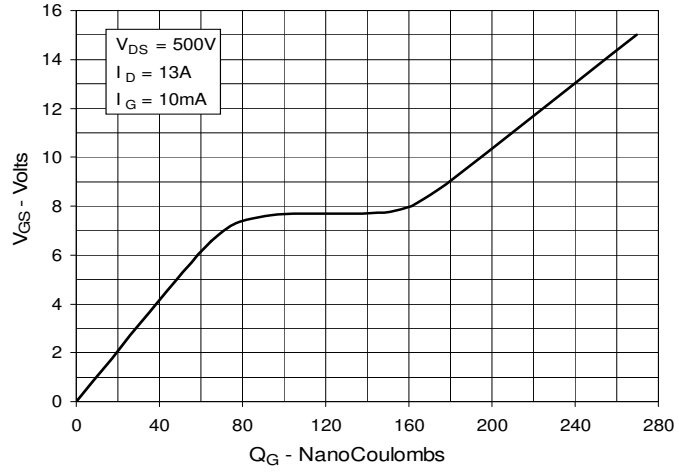


Fig. 11. Capacitance

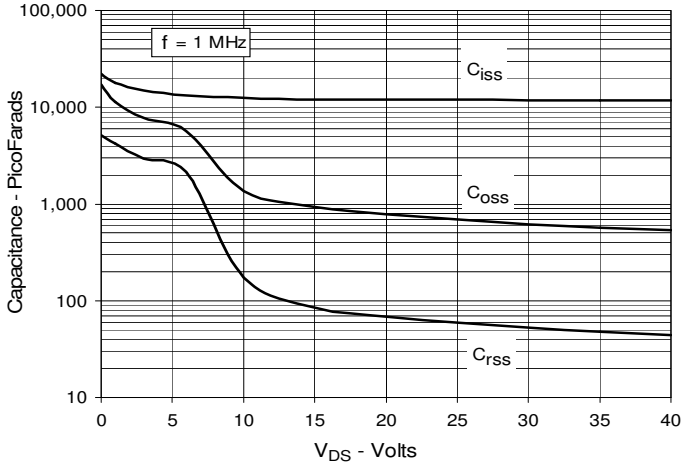


Fig. 12. Maximum Transient Thermal Impedance