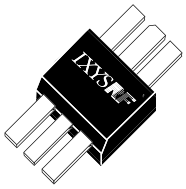
IXYSRF

MOSFET DRIVER IC'S

SWITCH MODE POWER SUPPLIES & RF GENERATORS

January 2003



These ultra-fast high current drivers are optimized to drive IXYS RF MOSFETs and IXYS IGBTs for high efficiency performance in RF generators, laser diode drivers, pulse generators, motor drive and power conversion applications. They are designed to switch the largest MOSFETs and IGBTs with minimum switching times. The IXDD series drivers are manufactured in industry standard outlines which include TO-263 and TO-220 packages. The innovative DEIC420 is manufactured in IXYS RF's patented low-inductance RF package, offering superior thermal performance and continuous operating frequencies to 45MHz.

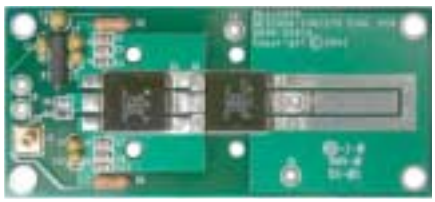
Features

- Wide operating voltage range from 4.5V to 25V
- Very Low output impedance
- Latch-up protected to rated reverse current
- Very low thermal impedance for DEIC420, TO-263 & TO-220 packages, output current up to 20A peak
- ENABLE pin option on some drivers for emergency shutdown
- TTL or CMOS input signals
- Grounded base tab in TO-263 and TO-220 packages for direct mounting

Applications

DRIVER IC & MOSFET EVALUATION BOARDS

The EV-Series MOSFET Gate Drive Modules are general purpose gate drive circuits for the IXYS RF MOSFETs as well as industry-standard MOSFETs and IGBTs. They are designed to serve as a system development tool for the design engineer, and as a convenient platform for the evaluation of the IXYS RF MOSFET portfolio. See the Evaluation Board Column in the driver selector guide for the appropriate board. Detailed data sheets can be down loaded at www.ixysrf.com.



FEATURES

- MOSFET/IGBT can be easily attached to a heat sink
- Can be used for both single ended & push pull designs
- Can be used as pulse width agile switching module
- Control gate input controls the width & frequency of the output

Single

Part Type	tON/tOFF (ns)	Logic	PEAK (A) Current	Zout (Ohms)	Package	P_D (W) THS<=25oC	Enable Feature	Evaluation Board
IXDD408PI	38 / 34	Non-Inv	8	0.8	8-Pin DIP	0.975	yes	EVDD408
IXDD408SI	38 / 34	Non-Inv	8	0.8	8-Pin SOIC	1.055	yes	EVDD408
IXDD408YI	38 / 34	Non-Inv	8	0.8	5-Lead TO-263	1.055	yes	EVDD408
IXDD408CI	38 / 34	Non-Inv	8	0.8	5-Lead TO-220	17	yes	EVDD408
IXDD409PI	36 / 33	Non-Inv	9	1.5	8 pin DIP	0.975	yes	EVDD409
IXDI409PI	36 / 33	Inv	9	1.5	8 pin DIP	0.975	no	EVDI409
IXDN409PI	36 / 33	Non-Inv	9	1.5	8 pin DIP	0.975	no	EVDN409
IXDD409SI	36 / 33	Non-Inv	9	1.5	8 pin SOIC	1.05	yes	EVDD409
IXDI409SI	36 / 33	Inv	9	1.5	8 pin SOIC	1.05	no	EVDI409
IXDN409SI	36 / 33	Non-Inv	9	1.5	8 pin SOIC	1.05	no	EVDN409
IXDD409CI	36 / 33	Non-Inv	9	1.5	5-leaded TO-220	17	yes	EVDD409
IXDD409YI	36 / 33	Non-Inv	9	1.5	5-leaded TO-263	17	yes	EVDD409
IXDI409CI	36 / 33	Inv	9	1.5	5-leaded TO-220	17	no	EVDI409
IXDI409YI	36 / 33	Inv	9	1.5	5-leaded TO-263	17	no	EVDI409
IXDN409CI	36 / 33	Non-Inv	9	1.5	5-leaded TO-220	17	no	EVDN409
IXDN409YI	36 / 33	Non-Inv	9	1.5	5-leaded TO-263	17	no	EVDN409
IXDD414PI	30 / 31	Non-Inv	14	0.6	8-Pin DIP	0.975	yes	EVDD414
IXDI414PI	30 / 31	Inv	14	1.0	8-pin DIP	0.975	no	EVDI414
IXDN414PI	30 / 31	Non-Inv	14	1.0	8-pin DIP	0.975	no	EVDN414
IXDI414CI	30 / 31	Inv	14	1.0	5-leaded TO-220	2	no	EVDI414
IXDI414YI	30 / 31	Inv	14	1.0	5-leaded TO-263	2	no	EVDI414
IXDN414CI	30 / 31	Non-Inv	14	1.0	5-leaded TO-220	2	no	EVDN414
IXDN414YI	30 / 31	Non-Inv	14	1.0	5-leaded TO-263	2	no	EVDN414
IXDD414CI	30 / 31	Non-Inv	14	0.6	5-Lead TO-220	12	yes	EVDD414
IXDD414YI	30 / 31	Non-Inv	14	0.6	5-Lead TO-263	12	yes	EVDD414
DEIC420	3 / 4	Non-Inv	20	0.8	DE-275A RF	100	no	EVIC420

Dual

Part Type	tON/tOFF (ns)	Logic	PEAK (A) Current	Zout (Ohms)	Package	P_D (W) THS<=25oC	Enable Feature	Evaluation Board
IXDF402PI	28 / 26	Inv & Non-Inv	2	4.0	8 pin DIP		no	EVDF402
IXDF402SI	28 / 26	Inv & Non-Inv	2	4.0	8 pin SOIC		no	EVDF402
IXDF402SI-16	28 / 26	Inv & Non-Inv	2	4.0	16 pin SOIC		no	EVDF402
IXDI402PI	28 / 26	Inv	2	4.0	8 pin DIP		no	EVDI402
IXDI402SI	28 / 26	Inv	2	4.0	8 pin SOIC		no	EVDI402
IXDI402SI-16	28 / 26	Inv	2	4.0	16 pin SOIC		no	EVDI402
IXDN402PI	28 / 26	Non-Inv	2	4.0	8 pin DIP		no	EVDN402
IXDN402SI	28 / 26	Non-Inv	2	4.0	8 pin SOIC		no	EVDN402
IXDN402SI-16	28 / 26	Non-Inv	2	4.0	16 pin SOIC		no	EVDN402
IXDD404PI	34 / 30	Non-Inv	4	1.5	8-Pin DIP	0.975	yes	EVDD404
IXDD404SI	34 / 30	Non-Inv	4	1.5	8-Pin SOIC	1.055	yes	EVDD404
IXDD404SI-16	34 / 30	Non-Inv	4	1.5	16-Pin SOIC	1.055	yes	EVDD404
IXDD404SIA	34 / 30	Non-Inv	4	3.0	8 pin SOIC(no base pad)		yes	EVDD404
IXDF404PI	34 / 30	Inv & Non-Inv	4	3.0	8 pin DIP		no	EVDF404
IXDF404SI	34 / 30	Inv & Non-Inv	4	3.0	8 pin SOIC		no	EVDF404
IXDF404SI-16	34 / 30	Inv & Non-Inv	4	3.0	16 pin SOIC		no	EVDF404
IXDI404PI	34 / 30	Inv	4	3.0	8 pin DIP		no	EVDI404
IXDI404SI	34 / 30	Inv	4	3.0	8 pin SOIC		no	EVDI404
IXDI404SI-16	34 / 30	Inv	4	3.0	16 pin SOIC		no	EVDI404
IXDN404PI	34 / 30	Non-Inv	4	3.0	8 pin DIP		no	EVDN404
IXDN404SI	34 / 30	Non-Inv	4	3.0	8 pin SOIC		no	EVDN404
IXDN404SI-16	34 / 30	Non-Inv	4	3.0	16 pin SOIC		no	EVDN404
IXDD415SI	3 / 4	Non-Inv	15	0.8	5-Lead TO-263	12	yes	EVDD415

IXLDO2 2A ULTRA HIGH SPEED LASER DIODE DRIVER IC

Features

- Q and Q-Bar output transition at 600 picoseconds
- Packaged in the high power SO-28 providing 0-2 Amps of output current
- Frequency agility
- Pulse Width & Current can be modulated in real time to >10MHz

IC	Max. Current	Rise Time	Pulse Width	Max. Freq.	Evaluation Board
IXLD02SI	2A	600ps	1.5ns to >1us	17MHz	EVLD02