

## N-Channel Depletion Mode MOSFET



Type	V <sub>DSS</sub> max.	R <sub>DS(on)</sub> max.	Chip type	Chip size dimensions		Source - bond wire recommended	Equivalent device data sheet
				mm	mils		
IXTD 02N50D-1M	500	30	1M	1.96 x 1.68	77 x 66	3 mil x 1	IXTP 02N50D
IXTD 01N100D-1M	1000	110	1M	1.96 x 1.68	77 x 66	3 mil x 1	IXTP 01N100D

### Depletion Mode MOSFETs

Depletion mode MOSFETs, unlike the regular enhancement type MOSFETs, requires a negative gate bias to turn it off. Consequently they remain on at or above zero gate bias voltage but otherwise have similar MOSFET characteristics. Their R<sub>ds(on)</sub> and breakdown voltage have a positive temperature coefficient, increasing the gate bias voltage increases the gate channel conductivity and so decreases R<sub>ds(on)</sub> to some extent and there is a usable intrinsic diode. IXYS Corporation's IXTP01N100D is a depletion mode MOSFET rated at V<sub>DSS</sub> = 1000 Volts and I<sub>D</sub> = 100 mA and its R<sub>DS(on)</sub> = 110 Ohms at V<sub>GS</sub> = 0 Volt. The other depletion mode MOSFET, IXTP02N05D, is rated at V<sub>DSS</sub> = 500 Volts, I<sub>D</sub> = 200 mA, while its R<sub>DS(on)</sub> = 30 Ohms. The minimum required gate bias to turn them off is -5 Volts. They are both housed in TO-220 package and can dissipate 25 Watts at T<sub>C</sub> = 25°C.

## P-Channel Power MOSFET



Type	V <sub>DSS</sub> max.	R <sub>DS(ON)</sub> max.	Chip type	Chip size dimensions		Source - bond wire recommended	Equivalent device data sheet
				mm	mils		
IXTD36P10-5B	100	0.08	5B	6.58 x 6.58	259 x 259	12 mil x 3	IXTH36P10
IXTD50P10-7B		0.06	7B	8.84 x 7.18	348 x 283	15 mil x 3	IXTH50P10
IXTD16P20-5B	200	0.22	5B	6.58 x 6.58	259 x 259	12 mil x 3	IXTH16P20
IXTD24P20-7B		0.16	7B	8.84 x 7.18	348 x 283	15 mil x 3	IXTH24P20
IXTD8P50-5B	500	1.20	5B	6.58 x 6.58	259 x 259	12 mil x 3	IXTH7P50
IXTD11P50-7B		0.75	7B	8.84 x 7.18	348 x 283	15 mil x 3	IXTH11P50
IXTD10P60-7B		1.05	7B	8.84 x 7.18	348 x 283	15 mil x 3	IXTH10P60

There are many applications in which IXTP01N100D and IXTP02N05D can be used: current regulators, off-line linear regulators, input transient voltage suppressors, input current inrush limiters, solid state relays etc.