



High Voltage MOSFET

N-Channel Enhancement Mode
Avalanche Energy Rated

IXTA 1N80
IXTP 1N80
IXTY 1N80

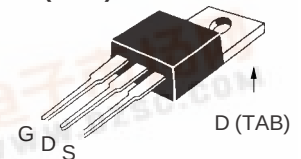
$V_{DSS} = 800 \text{ V}$
 $I_{D25} = 750 \text{ mA}$
 $R_{DS(on)} = 11 \text{ } \Omega$

Preliminary Data

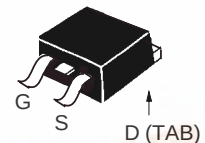


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}$	800	V
V_{DGR}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}; R_{GS} = 1 \text{ M}\Omega$	800	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	750	mA
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	3	A
I_{AR}		1.0	A
E_{AR}	$T_C = 25^\circ\text{C}$	5	mJ
E_{AS}	$T_C = 25^\circ\text{C}$	100	mJ
dv/dt	$I_S \leq I_{DM}$, $di/dt \leq 100 \text{ A}/\mu\text{s}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 150^\circ\text{C}$, $R_G = 47 \text{ } \Omega$	3	V/ns
P_D	$T_C = 25^\circ\text{C}$	40	W
T_J		$-55 \dots +150$	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		$-55 \dots +150$	$^\circ\text{C}$
M_d	Mounting torque	1.13/10	Nm/lb.in.
Weight	TO-220	4	g
	TO-252	0.8	g
	TO-263	3	g
Maximum lead temperature for soldering 1.6 mm (0.062 in.) from case for 10 s		300	$^\circ\text{C}$

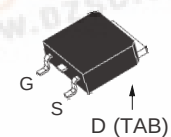
TO-220AB (IXTP)



TO-263 AA (IXTA)



TO-252 AA (IXTY)



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

Features

- International standard packages
- High voltage, Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Fast switching times

Applications

- Switch-mode and resonant-mode power supplies
- Flyback inverters
- DC choppers
- High frequency matching

Advantages

- Space savings
- High power density

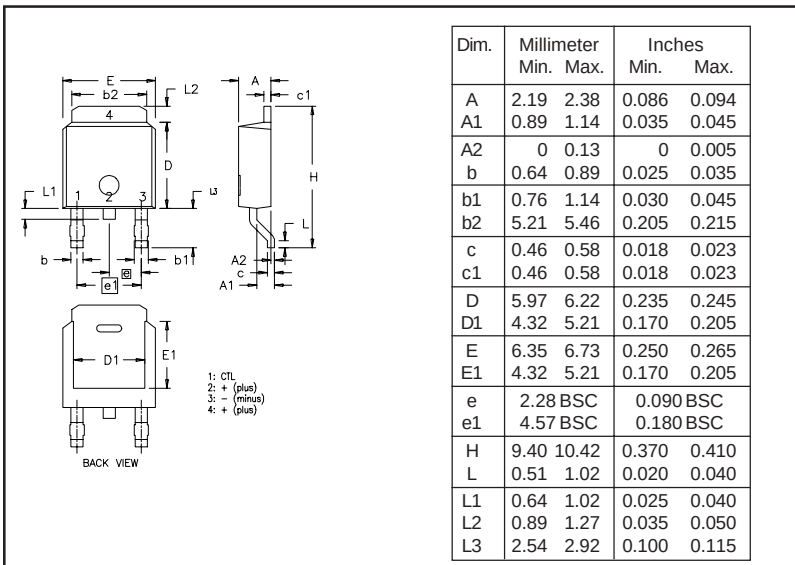
Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 250 \text{ } \mu\text{A}$	800		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 25 \text{ } \mu\text{A}$	2.5		4.5 V
I_{GSS}	$V_{GS} = \pm 20 \text{ V}$, $V_{DS} = 0$			$\pm 100 \text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$, $V_{GS} = 0 \text{ V}$			25 μA
	$T_J = 125^\circ\text{C}$			500 μA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 500 \text{ mA}$ Pulse test, $t \leq 300 \text{ } \mu\text{s}$, duty cycle $d \leq 2 \%$	9.5	11	Ω



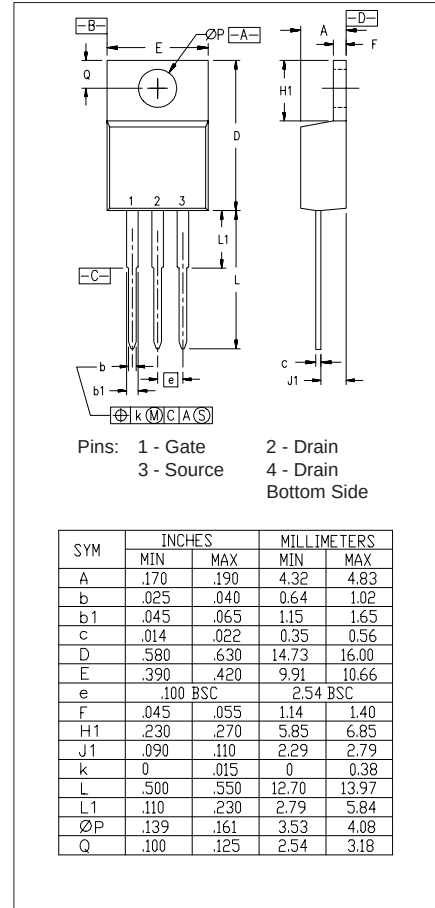
Symbol	Test Conditions	Characteristic Values (T _j = 25°C, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	V _{DS} = 20 V; I _D = 500 mA, pulse test	0.7	0.8	S
C_{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz		220	pF
C_{oss}			23	pF
C_{rss}			4	pF
$t_{d(on)}$	V _{GS} = 10 V, V _{DS} = 0.5 • V _{DSS} , I _D = 1 A R _G = 47Ω, (External)		11	ns
t_r			19	ns
$t_{d(off)}$			40	ns
t_f			28	ns
$Q_{G(on)}$	V _{GS} = 10 V, V _{DS} = 0.5 • V _{DSS} , I _D = 1 A		8.5	nC
Q_{GS}			2.5	nC
Q_{GD}			4.5	nC
R_{thJC}	(IXTP)			3.1 K/W
R_{thCK}			0.50	K/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			750 mA
I _{SM}	Repetitive; pulse width limited by T _{JM}			3 A
V _{SD}	I _F = I _S , V _{GS} = 0 V, Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %		1.8	2 V
t _{rr}	I _F = I _S , -di/dt = 100 A/μs, V _R = 100 V		710	ns

TO-252 AA Outline



TO-220 AD Dimensions



TO-263 AA Outline

