

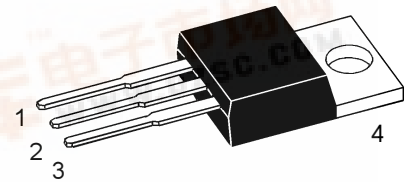


High Voltage IGBT

	V_{CES}	I_{C90}	$V_{CE(SAT)}$
IXGP 2N100	1000 V	2.0 A	2.7 V
IXGP 2N100A	1000 V	2.0 A	3.5 V

Symbol	Test Conditions	Maximum Ratings	
V_{CES}	$T_J = 25^\circ\text{C}$ to 150°C	1000	V
V_{CGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GE} = 1\text{ M}\Omega$	1000	V
V_{GES}	Continuous	± 20	V
V_{GEM}	Transient	± 30	V
I_{C25}	$T_C = 25^\circ\text{C}$	4	A
I_{C90}	$T_C = 90^\circ\text{C}$	2	A
I_{CM}	$T_C = 25^\circ\text{C}$, 1 ms	8	A
SSOA (RBSOA)	$V_{GE} = 15\text{ V}$, $T_J = 125^\circ\text{C}$, $R_G = 150\Omega$ Clamped inductive load	$I_{CM} = 6$ @ $0.8 V_{CES}$	A
P_c	$T_C = 25^\circ\text{C}$	25	W
T_J		-55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{STG}		-55 ... +150	$^\circ\text{C}$
Weight		4	g
Max. Lead Temperature for Soldering (1.6mm from case for 10s)		300	$^\circ\text{C}$

TO-220



1 = Gate 2 = Collector
3 = Emitter 4 = Collector

Features

- International standard package
- Low $V_{CE(sat)}$
- for low on-state conduction losses
- High current handling capability
- MOS Gate turn-on
- drive simplicity

Applications

- Capacitor discharge
- Anode triggering of thyristors
- DC choppers
- Switched-mode and resonant-mode power supplies.

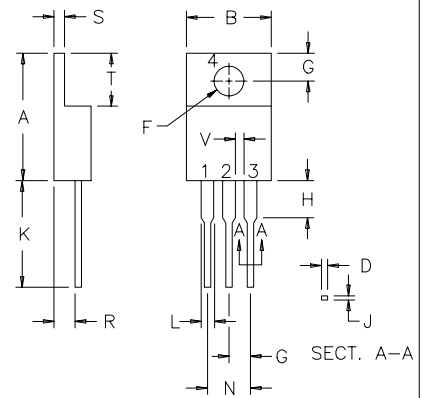
Symbol	Test Conditions	Characteristic Values		
		Min.	Typ.	Max.
BV_{CES}	$I_C = 25\mu\text{A}$, $V_{GE} = 0\text{ V}$	1000		V
$V_{GE(th)}$	$I_C = 25\mu\text{A}$, $V_{CE} = V_{GE}$	2.5		V
I_{CES}	$V_{CE} = 0.8 V_{CES}$ $V_{GE} = 0\text{ V}$	$T_J = 25^\circ\text{C}$		10 μA
		$T_J = 125^\circ\text{C}$		200 μA
I_{GES}	$V_{CE} = 0\text{ V}$, $V_{GE} = \pm 20\text{ V}$			$\pm 50\text{ nA}$
$V_{CE(sat)}$	$I_C = I_{C90}$, $V_{GE} = 15\text{ V}$	IXGP2N100		2.7 V
		IXGP2N100A		3.5 V



Symbol	Test Conditions ($T_J = 25^\circ\text{C}$ unless otherwise specified)	Characteristic Values			
		Min.	Typ.	Max.	
g_{fs}	$I_C = I_{C90}, V_{CE} = 10\text{ V}$, Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$	0.7	1.5	S	
C_{ies}	$V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$		101	pF	
C_{oes}			12	pF	
C_{res}			1.8	pF	
Q_g	$I_C = I_{C90}, V_{GE} = 15\text{ V}, V_{CE} = 0.5 V_{CES}$		7.8	nC	
Q_{ge}			1.5	nC	
Q_{gc}			4.2	nC	
$t_{d(on)}$	Inductive load, $T_J = 25^\circ\text{C}$ $I_C = I_{C90}, V_{GE} = 15\text{ V}$ $R_G = 150\ \Omega$ $V_{CLAMP} = 0.8 V_{CES}$		15	ns	
t_{ri}			20	ns	
$t_{d(off)}$			300	600	ns
t_{fi}		IXGP2N100	560	1000	ns
		IXGP2N100A	180	360	ns
E_{off}	Note 1	IXGP2N100	0.56	1.2	mJ
		IXGP2N100A	0.26	0.6	mJ
$t_{d(on)}$	Inductive load, $T_J = 125^\circ\text{C}$ $I_C = I_{C90}, V_{GE} = 15\text{ V}$ $R_G = R_{(off)} = 150\ \Omega$ $V_{CLAMP} = 0.8 V_{CES}$		15	ns	
t_{ri}			25	ns	
$E_{(on)}$			0.3		mJ
$t_{d(off)}$			400		ns
t_{fi}		IXGP2N100	800		ns
		IXGP2N100A	360		ns
E_{off}	IXGP2N100	1.0		mJ	
	IXGP2N100A	0.5		mJ	
R_{thJC}				5	KW
R_{thJA}				110	KW

Notes: 1. Switching times may increase for V_{CE} (Clamp) $> 0.8 V_{CES}$, higher T_J or increased R_G .

TO-220 Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	14.23	16.51	.560	.650
B	9.66	10.66	.380	.420
C	3.56	4.82	.140	.190
D	0.64	0.89	.025	.035
F	3.54	4.06	.139	.161
G	2.29	2.79	.090	.110
H	—	6.35	—	.250
J	0.51	0.76	.020	.030
K	12.70	14.73	.500	.580
L	1.15	1.77	.045	.070
N	4.83	5.33	.190	.210
Q	2.54	3.42	.100	.135
R	2.04	2.49	.080	.115
S	0.64	1.39	.025	.055
T	5.85	6.85	2.30	2.70
V	1.15	—	.045	—