

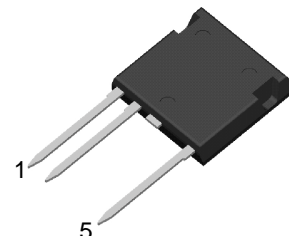
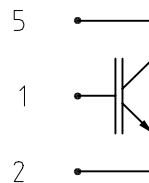
# High Voltage IGBT

in High Voltage  
ISOPLUS i4-PAC™

## IXLF 19N220A

## IXLF 19N250A

$I_{C25} = 32 \text{ A}$   
 $V_{CES} = 2200/2500 \text{ V}$   
 $V_{CE(sat)} = 3.2 \text{ V}$   
 $t_f = 50 \text{ ns}$



### IGBT

Symbol	Conditions	Maximum Ratings	
$V_{CES}$	$T_{VJ} = 25^\circ\text{C to } 150^\circ\text{C}$	IXLF 19N220A	2200 V
		IXLF 19N250A	2500 V
$V_{GES}$		$\pm 20$	V
$I_{C25}$	$T_C = 25^\circ\text{C}$	32	A
$I_{C90}$	$T_C = 90^\circ\text{C}$	19	A
$I_{CM}$	$V_{GE} = \pm 15 \text{ V}; R_G = 47 \Omega; T_{VJ} = 125^\circ\text{C}$	70	A
$V_{CEK}$	RBSOA, Clamped inductive load; $L = 100 \mu\text{H}$	1200	V
$P_{tot}$	$T_C = 25^\circ\text{C}$	250	W

### Features

- High Voltage IGBT
  - substitute for high voltage MOSFETs with significantly lower voltage drop and comparable switching speed
  - substitute for high voltage thyristors with voltage control of turn on and turn off
  - substitute for electromechanical trigger and discharge relays
- ISOPLUS i4-PAC™ high voltage package
  - isolated back surface
  - enlarged creepage towards heatsink
  - enlarged creepage between high voltage pins
  - application friendly pinout
  - high reliability
  - industry standard outline

### Symbol Conditions Characteristic Values

( $T_{VJ} = 25^\circ\text{C}$ , unless otherwise specified)

Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
$V_{CE(sat)}$	$I_C = 19 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		3.2 4.7	3.9 V	
$V_{GE(th)}$	$I_C = 1 \text{ mA}; V_{GE} = V_{CE}$	5		8 V	
$I_{CES}$	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		0.2	0.15 mA mA	
$I_{GES}$	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$			500 nA	
$t_{d(on)}$ $t_r$ $t_{d(off)}$ $t_f$ $E_{on}$ $E_{off}$	Inductive load, $T_{VJ} = 125^\circ\text{C}$ $V_{CE} = 1500 \text{ V}; I_C = 19 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 47 \Omega$		200 100 600 50 11 3.6	ns ns ns ns mJ mJ	
$C_{ies}$		$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$		2.2	nF
$Q_{Gon}$		$V_{CE} = 800 \text{ V}; V_{GE} = 15 \text{ V}; I_C = 19 \text{ A}$		130	nC
$R_{thJC}$					0.5 K/W

### Applications

- switched mode power supplies
- DC-DC converters
- resonant converters
- laser generators, x ray generators
- discharge circuits

**Component**

Symbol	Conditions	Maximum Ratings	
$T_{VJ}$		-55...+150	°C
$T_{stg}$		-55...+125	°C
$V_{ISOL}$	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~
$F_c$	mounting force with clip	20...120	N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
$d_s, d_A$	C pin - E pin	7.0		mm
$d_s, d_A$	pin - backside metal	5.5		mm
$R_{thCH}$	with heatsink compound		0.15	K/W
<b>Weight</b>			9	g

**Dimensions in mm (1 mm = 0.0394")**
