

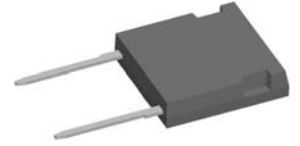
# High Voltage Standard Rectifier

Single Diode

$V_{RRM} = 2200\text{ V}$   
 $I_{FAV} = 30\text{ A}$   
 $V_F = 1.24\text{ V}$

Part number

**DNA 30 E 2200 FE**



Backside: anode

**Features / Advantages:**

- Planar passivated chips
- Very low leakage current
- Very low forward voltage drop
- Improved thermal behaviour

**Applications:**

- Diode for main rectification
- For single and three phase bridge configurations

**Package:**

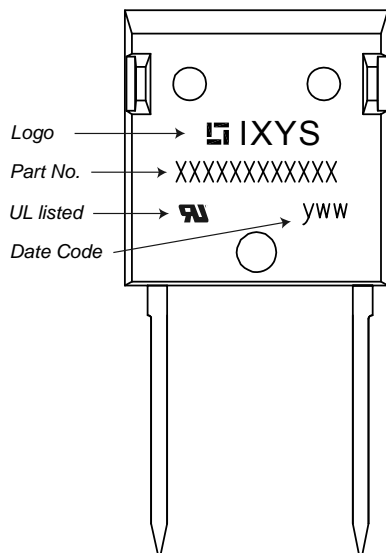
- Housing: i4-Pac
- DCB isolated backside
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

**Ratings**

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$V_{RRM}$	max. repetitive reverse voltage				2200	V
$I_R$	reverse current	$V_R = 2200\text{ V}$			40	$\mu\text{A}$
		$V_R = 2200\text{ V}$			1.5	mA
$V_F$	forward voltage	$I_F = 30\text{ A}$			1.27	V
		$I_F = 60\text{ A}$			1.50	V
		$I_F = 30\text{ A}$			1.24	V
		$I_F = 60\text{ A}$			1.58	V
$I_{FAV}$	average forward current	rectangular d = 0.5			30	A
$V_{F0}$	threshold voltage				0.88	V
$r_F$	slope resistance	} for power loss calculation only			12.2	m $\Omega$
$R_{thJC}$	thermal resistance junction to case				1.35	K/W
$T_{VJ}$	virtual junction temperature		-55		175	$^{\circ}\text{C}$
$P_{tot}$	total power dissipation				110	W
$I_{FSM}$	max. forward surge current	t = 10 ms; (50 Hz), sine			370	A
		t = 8,3 ms; (60 Hz), sine			400	A
		t = 10 ms; (50 Hz), sine			315	A
		t = 8,3 ms; (60 Hz), sine			340	A
$I^2t$	value for fusing	t = 10 ms; (50 Hz), sine			685	A <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine			665	A <sup>2</sup> s
		t = 10 ms; (50 Hz), sine			495	A <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine			480	A <sup>2</sup> s
$C_J$	junction capacitance	$V_R = 700\text{ V}; f = 1\text{ MHz}$		7		pF

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$I_{RMS}$	RMS current	per pin <sup>1)</sup>			70	A
$R_{thCH}$	thermal resistance case to heatsink			0.20		K/W
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				9		g
$F_C$	mounting force with clip		20		120	N
$V_{ISOL}$	isolation voltage	t = 1 second	3600			V
		t = 1 minute	3000			V
$d_s$	creepage distance on surface		13.9			mm
$d_A$	striking distance through air		5.5			mm

<sup>1)</sup>  $I_{RMS}$  is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.  
 In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

**Product Marking**

**Part number**

- D = Diode
- N = High Voltage Standard Rectifier
- A = ( $\geq 2200$  V)
- 30 = Current Rating [A]
- E = Single Diode
- 2200 = Reverse Voltage [V]
- FE = i4-Pac (2HV)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DNA 30 E 2200 FE	DNA30E2200FE	Tube	25	508861

Similar Part	Package	Voltage class
DNA30E2200PA	TO-220AC (2)	2200
DNA30E2200PC	TO-263AB (D2Pak)	2200

**Outlines i4-Pac**

