

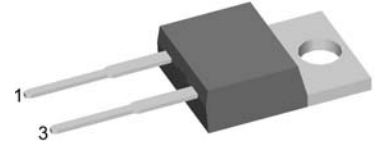
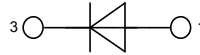
High Voltage Standard Rectifier

Single Diode

$V_{RRM} = 2200\text{ V}$
 $I_{FAV} = 30\text{ A}$
 $V_F = 1.25\text{ V}$

Part number

DNA 30 E 2200 PA



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

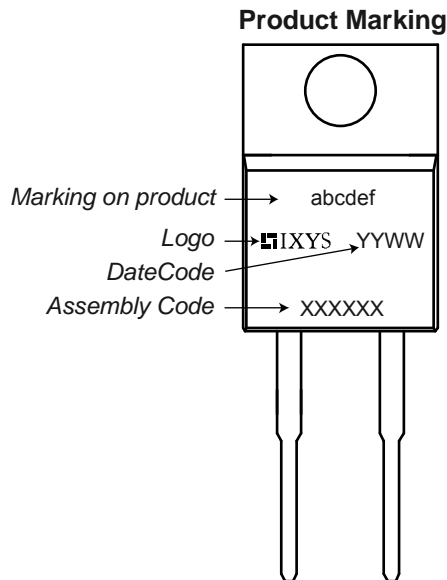
Package:

- Housing: TO-220
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

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	μA
		$V_R = 2200\text{ V}$			1.5	mA
V_F	forward voltage	$I_F = 30\text{ A}$			1.28	V
		$I_F = 60\text{ A}$			1.53	V
		$I_F = 30\text{ A}$			1.25	V
		$I_F = 60\text{ A}$			1.61	V
I_{FAV}	average forward current	rectangular $d = 0.5$			30	A
V_{F0}	threshold voltage	} for power loss calculation only			0.88	V
r_F	slope resistance				12.9	m Ω
R_{thJC}	thermal resistance junction to case				0.70	K/W
T_{VJ}	virtual junction temperature		-55		175	$^{\circ}\text{C}$
P_{tot}	total power dissipation				210	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$			370	A
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$			400	A
		$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$			315	A
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$			340	A
I^2t	value for fusing	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$			685	A ² s
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$			665	A ² s
		$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$			495	A ² s
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$			480	A ² 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 ¹⁾			35	A
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
T_{stg}	storage temperature		-55		150	°C
Weight				2		g
M_D	mounting torque		0.4		0.6	Nm
F_C	mounting force with clip		20		60	N

¹⁾ 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.

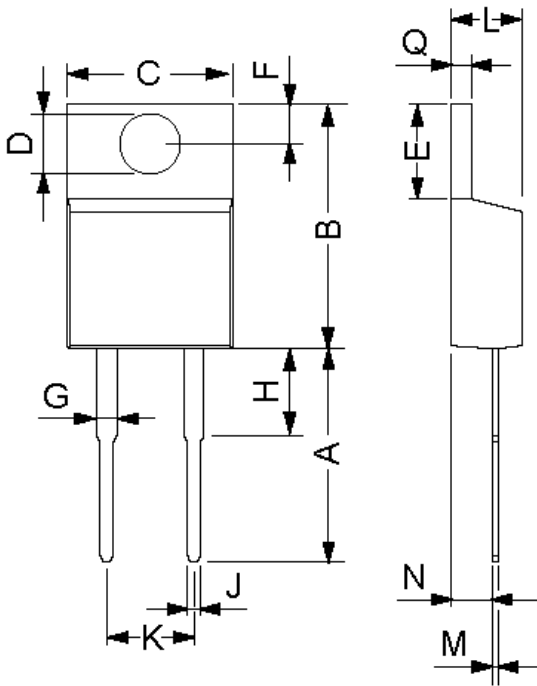

Part number

- D = Diode
- N = High Voltage Standard Rectifier
- A = (≥ 2200 V)
- 30 = Current Rating [A]
- E = Single Diode
- 2200 = Reverse Voltage [V]
- PA = TO-220AC (2)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DNA 30 E 2200 PA	DNA30E2200PA	Tube	50	507762

Similar Part	Package	Voltage class
DNA30E2200PC	TO-263AB (D2Pak)	2200
DNA30E2200FE	i4-Pac (2HV)	2200

Outlines TO-220



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.7	14.73	0.5	0.58
B	14.23	16.51	0.56	0.65
C	9.66	10.66	0.38	0.42
D	3.54	4.08	0.139	0.161
E	5.85	6.85	2.3	0.42
F	2.54	3.42	0.1	0.135
G	1.15	1.77	0.045	0.07
H	-	6.35	-	0.25
J	0.64	0.89	0.025	0.035
K	4.83	5.33	0.19	0.21
L	3.56	4.82	0.14	0.19
M	0.51	0.76	0.02	0.03
N	2.04	2.49	0.08	0.115
Q	0.64	1.39	0.025	0.055