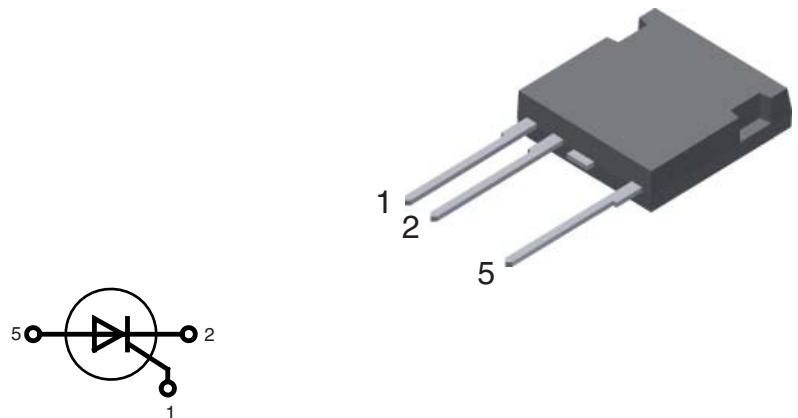


High Voltage Phase Control Thyristor

in High Voltage
ISOPLUS i4-PAC™

$V_{DRM} = 2200\text{ V}$
 $I_{TSM} = 200\text{ A}$

Part number
CNA30E2200PB



Features / Advantages:

- high voltage thyristor
 - for line frequency
 - chip technology for long term stability
- 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

Applications:

- controlled rectifiers
 - power supplies
 - drives
- AC switches
- capacitor discharge control
 - flash tubes
 - X-ray and laser generators

Package: i4-Pac

- Isolation Voltage: 3000 V~
- Industry convenient outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

Disclaimer Notice

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.

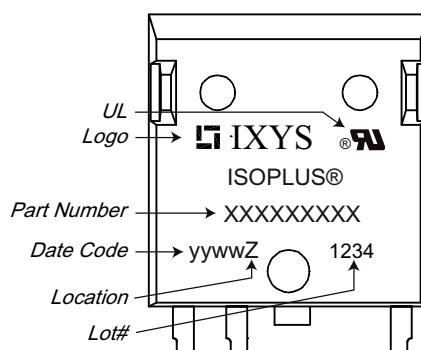


Thyristor			Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.	Unit
V_{DRM}	max. repetitive forward blocking voltage				2200	V
V_{DSM}	max. non-repetitive forward blocking voltage				2300	V
$V_{RRM/RSM}$	max. repetitive reverse voltage / max. non-repetitive reverse voltage				1650	V
I_{TSM}	max. surge on-state current	sine 180°; $t = 10 \text{ ms}$; $V_R = 0 \text{ V}$ $T_{VJ} = 25^\circ\text{C}$			200	A
$(di/dt)_{cr}$	critical rate of rise of current	$f = 50 \text{ Hz}$; $t_p = 200 \mu\text{s}$; $V_D = 2000 \text{ V}$ $di_G/dt = 0.45 \text{ A}/\mu\text{s}$; $I_G = 0.45 \text{ A}$ non repetitive; $I_T = 45 \text{ A}$			150	$\text{A}/\mu\text{s}$
$(dv/dt)_{cr}$	critical rate of rise of voltage	$V_D = 2200 \text{ V}$ $R_{GK} = \infty$; method 1 (linear voltage rise)			5000	$\text{V}/\mu\text{s}$
V_T	forward voltage	$I_T = 45 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$			3.0	V
V_{GT} I_{GT}	gate trigger voltage gate trigger current	$V_D = 6 \text{ V}$ $T_{VJ} = 25^\circ\text{C}$			2.5 250	V mA
V_{GD} I_{GD}	gate non-trigger voltage gate non-trigger current	$V_D = \frac{2}{3} V_{DRM}$ $T_{VJ} = 25^\circ\text{C}$			0.2 5	V mA
I_L	latching current	$t_p = 10 \mu\text{s}$; $V_D = 6 \text{ V}$ $I_G = 0.45 \text{ A}$; $di_G/dt = 0.45 \text{ A}/\mu\text{s}$			700	mA
I_H	holding current	$V_D = 6 \text{ V}$; $R_{GK} = \infty$ $T_{VJ} = 0^\circ\text{C}$ $T_{VJ} = 70^\circ\text{C}$	55		300	mA mA
t_q	turn-off time	$I_T = 20 \text{ A}$; $t_p = 300 \mu\text{s}$; $di/dt = -20 \text{ A}/\mu\text{s}$ $V_R = 10 \text{ V}$; $dv/dt = 20 \text{ V}/\mu\text{s}$ $V_D = 800 \text{ V}$ $T_{VJ} = 70^\circ\text{C}$		100		μs
I_{RRM} I_{DRM}	max. repetitive reverse current max. repetitive off-state current	$V_R = V_{RRM}$; $V_D = V_{DRM}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 70^\circ\text{C}$			50 200	μA μA
$I_{DSM/RSM}$	max. single pulse reverse current	$V_R = V_{RSM}$; $V_D = V_{DSM}$ $T_{VJ} = 70^\circ\text{C}$			2	mA

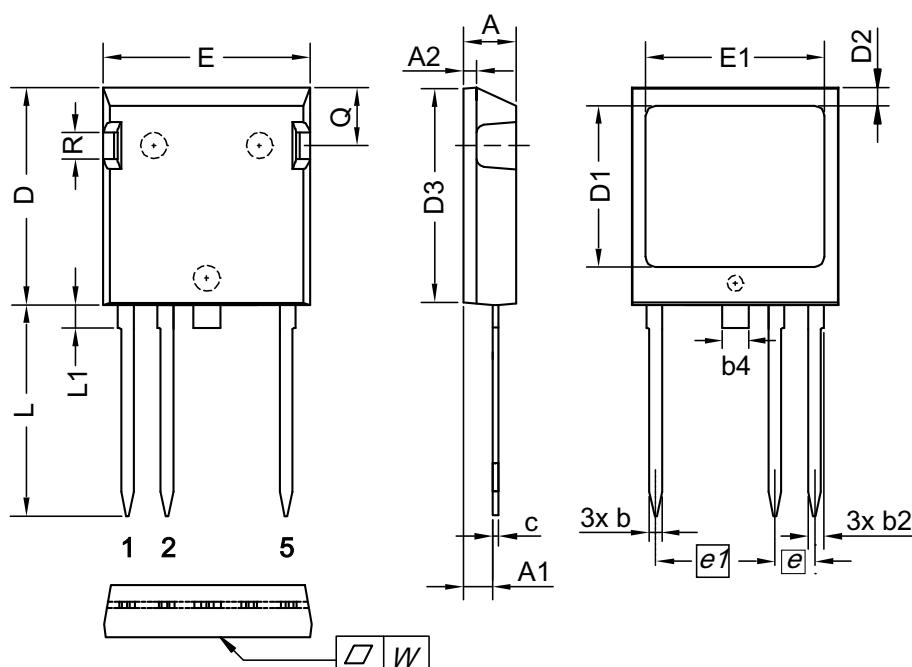


Package I4-Pac			Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal			70	A
T_{vJ}	virtual junction temperature		-40		70	°C
T_{op}	operation temperature		-40		70	°C
T_{stg}	storage temperature		-40		70	°C
Weight				5.5		g
F_c	mounting force with clip		20		120	N
$d_{Spp/App}$ $d_{Spb/App}$	creepage distance on surface striking distance through air	terminal to terminal terminal to backside	7.2 5.1			mm mm
V_{ISOL}	isolation voltage	$t = 1 \text{ second}$ $t = 1 \text{ minute}$	50/60 Hz, RMS, $I_{ISOL} \leq 1 \text{ mA}$		3000 2500	V V

Product Marking



Dimensions in mm (1 mm = 0.0394")



Dim.	Millimeter		Inches	
	min	max	min	max
A	4.83	5.21	0.190	0.205
A1	2.59	3.00	0.102	0.118
A2	1.17	2.16	0.046	0.085
b	1.14	1.40	0.045	0.055
b2	1.47	1.73	0.058	0.068
b4	2.54	2.79	0.100	0.110
c	0.51	0.74	0.020	0.029
D	20.80	21.34	0.819	0.840
D1	14.99	15.75	0.590	0.620
D2	1.65	2.03	0.065	0.080
D3	20.30	20.70	0.799	0.815
E	19.56	20.29	0.770	0.799
E1	16.76	17.53	0.660	0.690
e	3.81 BSC		0.150 BSC	
e1	11.43 BSC		0.450 BSC	
L	19.81	21.34	0.780	0.840
L1	2.11	2.59	0.083	0.102
Q	5.33	6.20	0.210	0.244
R	2.54	4.57	0.100	0.180
W	-	0.10	-	0.004

Die konvexe Form des Substrates ist typ. < 0.05 mm über der Kunststoffoberfläche der Bauteilunterseite
The convex bow of substrate is typ. < 0.05 mm over plastic surface level of device bottom side