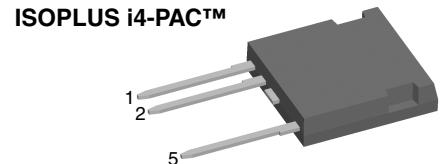
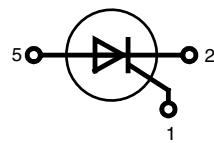


# High Voltage Phase Control Thyristor

in High Voltage  
ISOPLUS i4-PAC™

**V<sub>DRM</sub> = 2200 V**  
**I<sub>TSM</sub> = 200 A**



## Thyristor

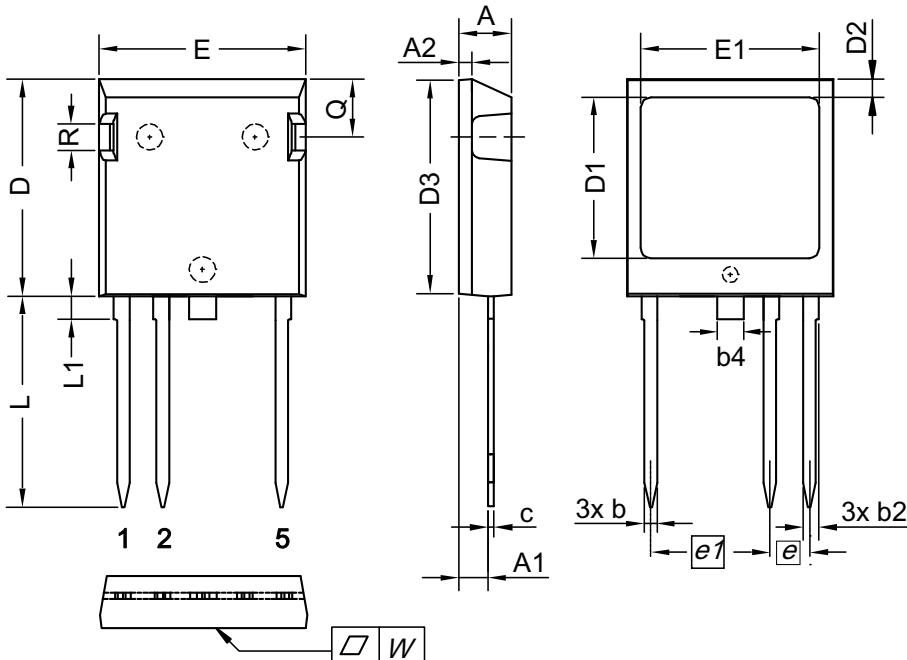
Symbol	Conditions	Maximum Ratings	
V <sub>DRM</sub>		2200	V
V <sub>DSM</sub>		2300	V
V <sub>RRM / RSM</sub>		1650	V
I <sub>TSM</sub>	sine 180°; t = 10 ms; V <sub>R</sub> = 0 V; T <sub>VJ</sub> = 25°C	200	A
(di/dt) <sub>cr</sub>	f = 50 Hz; t <sub>p</sub> = 200 µs; V <sub>D</sub> = 2000 V di <sub>G</sub> /dt = 0.45 A/µs; I <sub>G</sub> = 0.45 A non repetitive; I <sub>T</sub> = 45 A	150	A/µs
(dv/dt) <sub>cr</sub>	V <sub>D</sub> = 2200 V R <sub>GK</sub> = ∞; method 1 (linear voltage rise)	5000	V/µs

## Features

- high voltage thyristor
  - 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

Symbol	Conditions	Characteristic Values	
		min.	max.
V <sub>T</sub>	I <sub>T</sub> = 45 A	T <sub>VJ</sub> = 25°C	3.0 V
V <sub>GT</sub>	V <sub>D</sub> = 6 V	T <sub>VJ</sub> = 25°C	2.5 V
I <sub>GT</sub>			250 mA
V <sub>GD</sub>	V <sub>D</sub> = 2/3 V <sub>DRM</sub>	T <sub>VJ</sub> = 25°C	0.2 V
I <sub>GD</sub>			5 mA
I <sub>L</sub>	t <sub>p</sub> = 10 µs; V <sub>D</sub> = 6 V I <sub>G</sub> = 0.45 A; di <sub>G</sub> /dt = 0.45 A/µs	T <sub>VJ</sub> = 0°C	700 mA
I <sub>H</sub>	V <sub>D</sub> = 6 V; R <sub>GK</sub> = ∞	T <sub>VJ</sub> = 0°C T <sub>VJ</sub> = 70°C	300 mA 55 mA
t <sub>q</sub>	I <sub>T</sub> = 20 A; t <sub>p</sub> = 300 µs; di/dt = -20 A/µs V <sub>R</sub> = 10 V; dv/dt = 20 V/µs V <sub>D</sub> = 800 V	T <sub>VJ</sub> = 70°C	100 µs
I <sub>RRM / DRM</sub>	V <sub>R</sub> = V <sub>RRM</sub> ; V <sub>D</sub> = V <sub>DRM</sub>	T <sub>VJ</sub> = 25°C T <sub>VJ</sub> = 70°C	50 µA 200 µA
I <sub>DSM / RSM</sub>	V <sub>R</sub> = V <sub>RSR</sub> ; V <sub>D</sub> = V <sub>DSR</sub>	T <sub>VJ</sub> = 70°C	2 mA

Component				
Symbol	Conditions	Maximum Ratings		
$T_{VJ}$			-10 ... +70 °C	
$T_{stg}$			-40 ... +70 °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.	
$d_s, d_A$	A pin - K pin pin - backside metal	7 5.5		mm mm
$R_{thCH}$	with heatsink compound	0.15		K/W
Weight		9		g



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