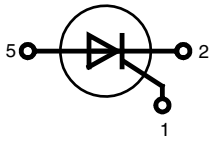
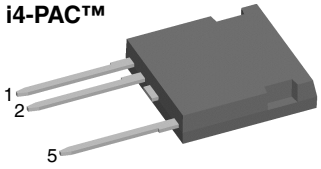
High Voltage Phase Control Thyristor

in High Voltage
ISOPLUS i4-PAC™

V_{DRM} = 2200 V
I_{TSM} = 200 A



ISOPLUS i4-PAC™



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

Thyristor

Symbol	Conditions	Maximum Ratings	
V_{DRM}		2200	V
V_{DSM}		2300	V
$V_{RRM / RSM}$		1650	V
I_{TSM}	sine 180°; t = 10 ms; V_R = 0 V; T_{VJ} = 25°C	200	A
$(di/dt)_{cr}$	f = 50 Hz; t_p = 200 µs; V_D = 2000 V di_G/dt = 0.45 A/µs; I_G = 0.45 A non repetitive; I_T = 45 A	150	A/µs
$(dv/dt)_{cr}$	V_D = 2200 V R_{GK} = ∞; method 1 (linear voltage rise)	5000	V/µs

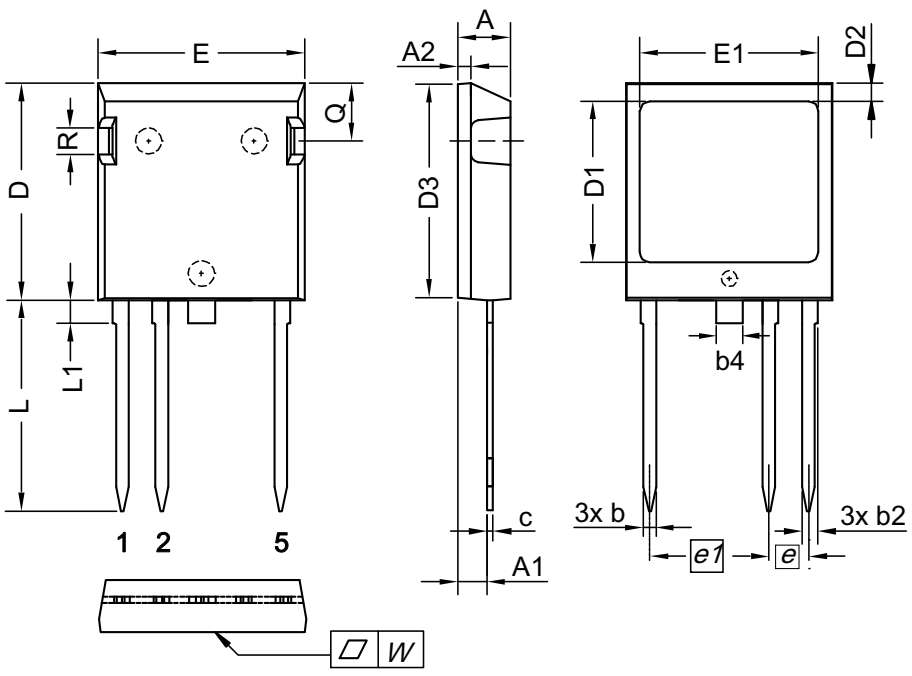
Symbol	Conditions		Characteristic Values min.	max.	
V_T	I_T = 45 A	T_{VJ} = 25°C		3.0	V
V_{GT} I_{GT}	V_D = 6 V	T_{VJ} = 25°C		2.5 250	V mA
V_{GD} I_{GD}	V_D = $^2/_3$ V_{DRM}	T_{VJ} = 25°C		0.2 5	V mA
I_L	t_p = 10 µs; V_D = 6 V I_G = 0.45 A; di_G/dt = 0.45 A/µs	T_{VJ} = 0°C		700	mA
I_H	V_D = 6 V; R_{GK} = ∞	T_{VJ} = 0°C T_{VJ} = 70°C	 55	300	mA mA
t_q	I_T = 20 A; t_p = 300 µs; di/dt = -20 A/µs V_R = 10 V; dv/dt = 20 V/µs V_D = 800 V	 T_{VJ} = 70°C		100	µs
$I_{RRM / DRM}$	V_R = V_{RRM}; V_D = V_{DRM}	T_{VJ} = 25°C T_{VJ} = 70°C		50 200	µA µA
$I_{DSM / RSM}$	V_R = V_{RSM}; V_D = V_{DSM}	T_{VJ} = 70°C		2	mA

IXYS reserves the right to change limits, test conditions and dimensions.

20160523b

Component			
Symbol	**Conditions**	**Maximum Ratings**	
T_{VJ}		-10 ... +70	°C
T_{stg}		-40 ... +70	°C
V_{ISOL}	$I_{ISOL} \leq 1$ mA; 50/60 Hz	2500	V~
F_C	Mounting force with clip	20...120	N

Symbol	**Conditions**	**Characteristic Values**			
		min.	**typ.**	**max.**	
d_S, d_A	A pin - K pin	7			mm
	pin - backside metal	5.5			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 konvexe 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 ofdevice bottom side

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