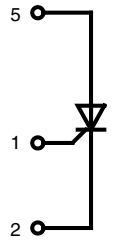
THE DATASHEET OF

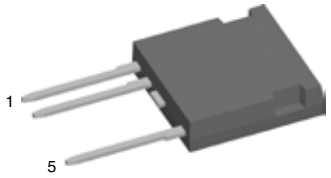
CS20-22MOF1

High Voltage Phase Control Thyristor
in High Voltage ISOPLUS i4-PAC™

$V_{DRM} = V_{RRM}$ = 2200 V
$I_{T(AV)}$ = 18 A
I_{TSM} = 200 A

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
2300	2200	CS 20-22moF1





Thyristor

Symbol	Conditions		Maximum Ratings	
$V_{DRM / RRM}$			2200	V
$I_{T(AV)}$	sine 180°; T_C = 90°C		18	A
$I_{T(AV)}$	square; d = 1/3; T_C = 90°C		16	A
I_{TSM}	sine 180°; t = 10 ms; V_R = 0 V; T_{VJ} = 25°C		200	A
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50 Hz; t_p = 200 µs	repetitive, I_T = 40 A	100	A/µs
	V_D = 2/3 V_{DRM} I_G = 0.45 A di_G/dt = 0.45 A/µs	non repetitive, I_T = 20 A	250	A/µs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; V_D = 2/3 V_{DRM} R_{GK} = ∞; method 1 (linear voltage rise)		2500	V/µs

Symbol	Conditions		Characteristic Values (T_{VJ} = 25°C, unless otherwise specified) typ.	max.	
V_T	I_T = 20 A;	T_{VJ} = 25°C T_{VJ} = 125°C	1.3 1.3	1.5	V
V_{GT} I_{GT}	V_D = 6 V			2.3 250	V mA
V_{GD} I_{GD}	V_D = 2/3 V_{DRM};	$T_{VJ} = T_{VJM}$		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			500	mA
I_H	V_D = 6 V; R_{GK} = ∞			150	mA
t_{gd}	V_D = ½ V_{DRM} I_G = 0.45 A; di_G/dt = 0.45 A/µs			2	µs
I_R, I_D	$V_R = V_{RRM}$; $V_D = V_{DRM}$;	T_{VJ} = 25°C T_{VJ} = 125°C	 2	50	µA mA
R_{thJC}	DC current			0.92	K/W

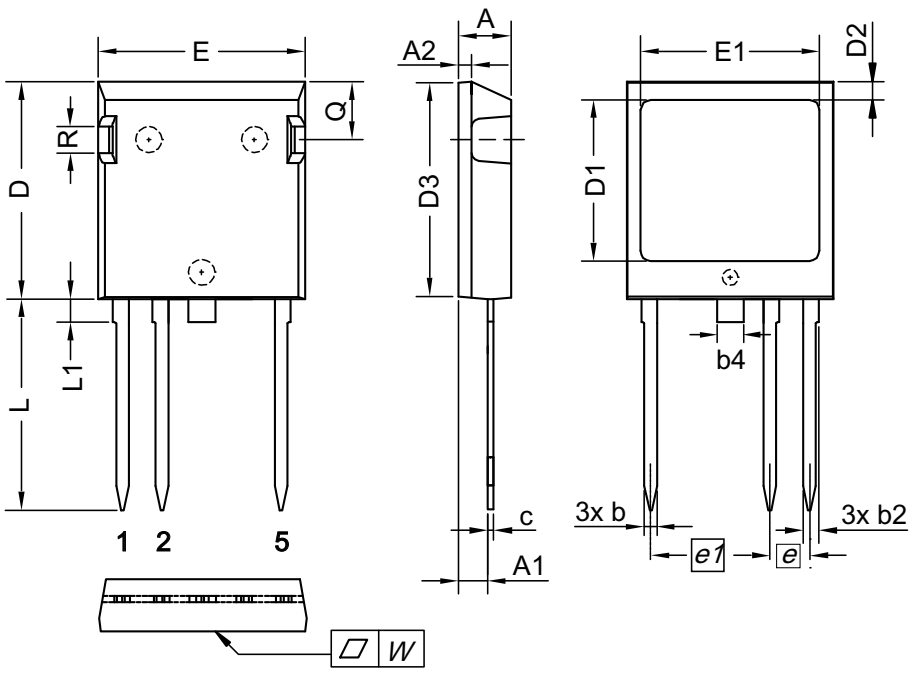
Features
- high voltage thyristor
  - for line frequency
  - chip technology for long term stability
- ISOPLUS i4-PAC™ high voltage package
  - isolated back surface
  - enlarged creepage towards heatsink
  - enlarged creepage between high voltage pins
  - application friendly pinout
  - high reliability
  - industry standard outline

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

Component			
Symbol	**Conditions**	**Maximum Ratings**	
T_{VJ}		-40 ... +125	°C
T_{stg}		-55 ... +125	°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.	
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			5.5	g

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 convexbow of substrate is typ. < 0.05 mm over plastic surface level ofdevice bottom side

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