PHASE CONTROL THYRISTOR
GDKP150

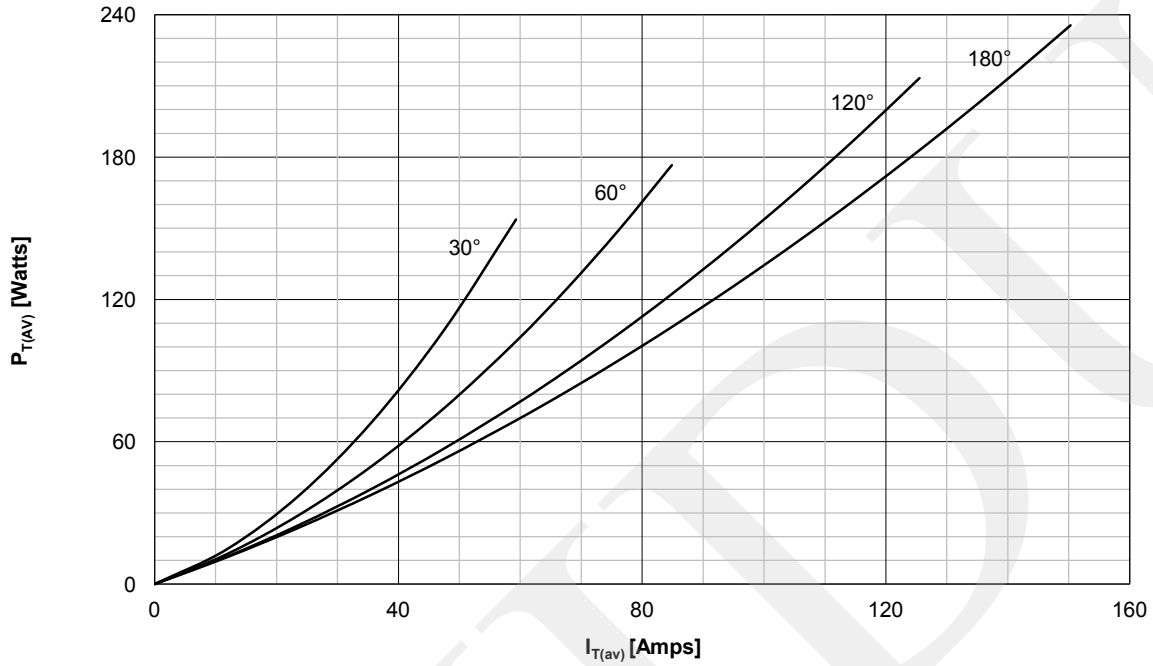
Features
- Full blocking capability over wide temperature range
- Hard soldered joints for high reliability

Key Parameters
V_{DRM} /V_{RRM} = 1600V
$I_{T(AV)}$ = 150A
I_{TSM} = 3000A
$V_{T(TO)}$ = 0.9V
r_T = 1.8mΩ

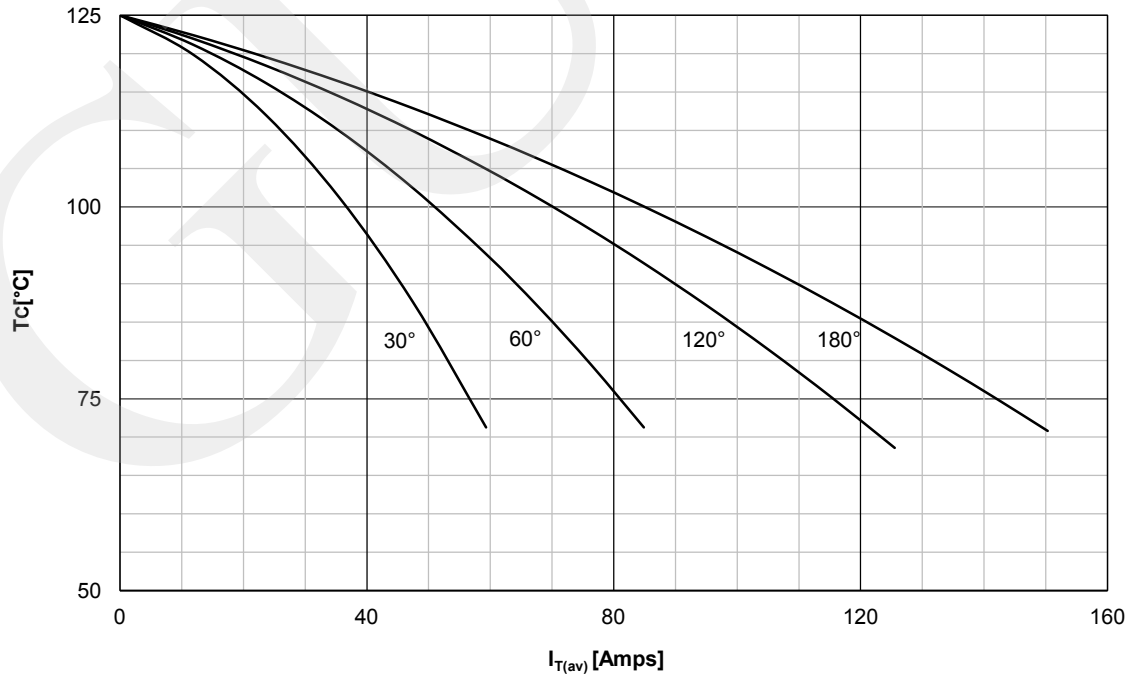
Applications
- Power Supplies
- AC Controllers
- Controlled Rectifiers
- DC motor control

Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	200 - 1600	V
V_{RSM}	Non-repetitive peak reverse voltage		125	300 - 1700	V
V_{DRM}	Repetitive peak off-state voltage		125	200 - 1600	V
I_{RRM}	Repetitive peak reverse current	V= V_{RRM}	125	25	mA
I_{DRM}	Repetitive peak off-state current	V= V_{DRM}	125	25	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T_c =70°C		150	A
I_{TRMS}	RMS on state current			236	A
I_{TSM}	Surge on state current	Sine wave, 10 ms Without reverse voltage	25	3000	A
			125	2200	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	45000	A^2s
			125	24200	A^2s
V_T	Peak on state voltage	Peak on state current = 470A	125	1.80	V
$V_{T(TO)}$	Threshold voltage		125	0.9	V
r_T	On state slope resistance		125	1.8	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current	Repetitive	125	150	A/μs
dv/dt	Critical rate of rise of off-state voltage	V_{DR} = 67%V_{DRM}	125	1000	V/μs
GATE					
I_{gt}	Gate trigger current	V_D=6V	25	150	mA
V_{gt}	Gate trigger voltage	V_D=6V	25	3.0	V
I_H	Holding current	V_D=6V, gate open circuit	25	400	mA
I_L	Latching current	V_D=6V	25	600	mA
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case		0.23	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink		0.08	°C/W
T_j	Max. junction temperature			125	°C
T_{stg}	Storage temperature			-40 125	°C
M	Mounting Torque			14	Nm
W	Weight (Approx.)			200	gm

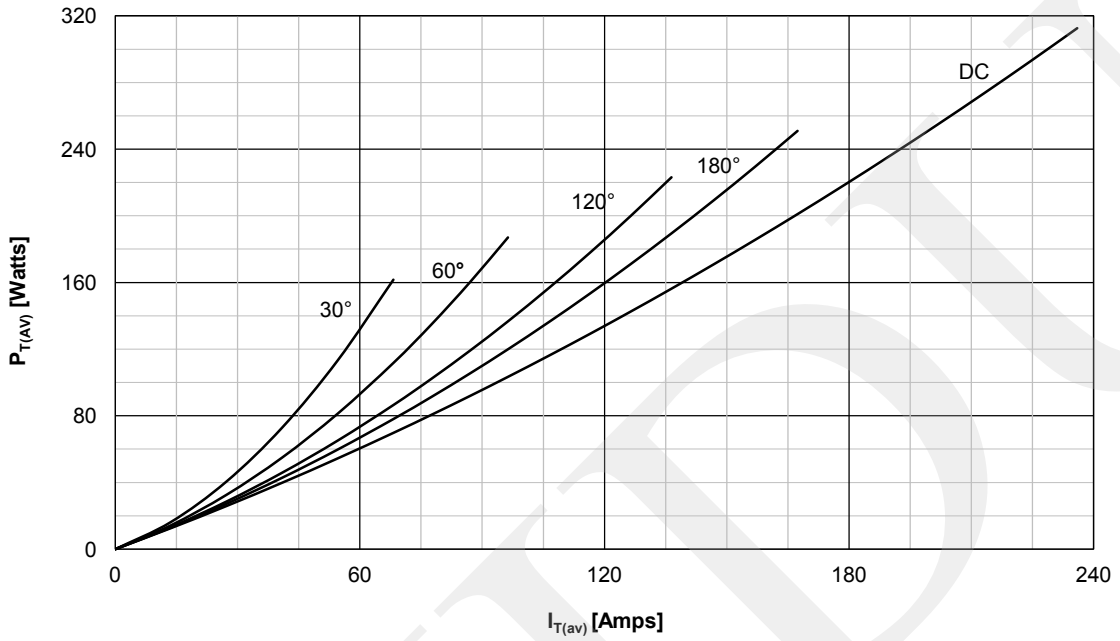
DISSIPATION CHARACTERISTICS
SINE WAVE



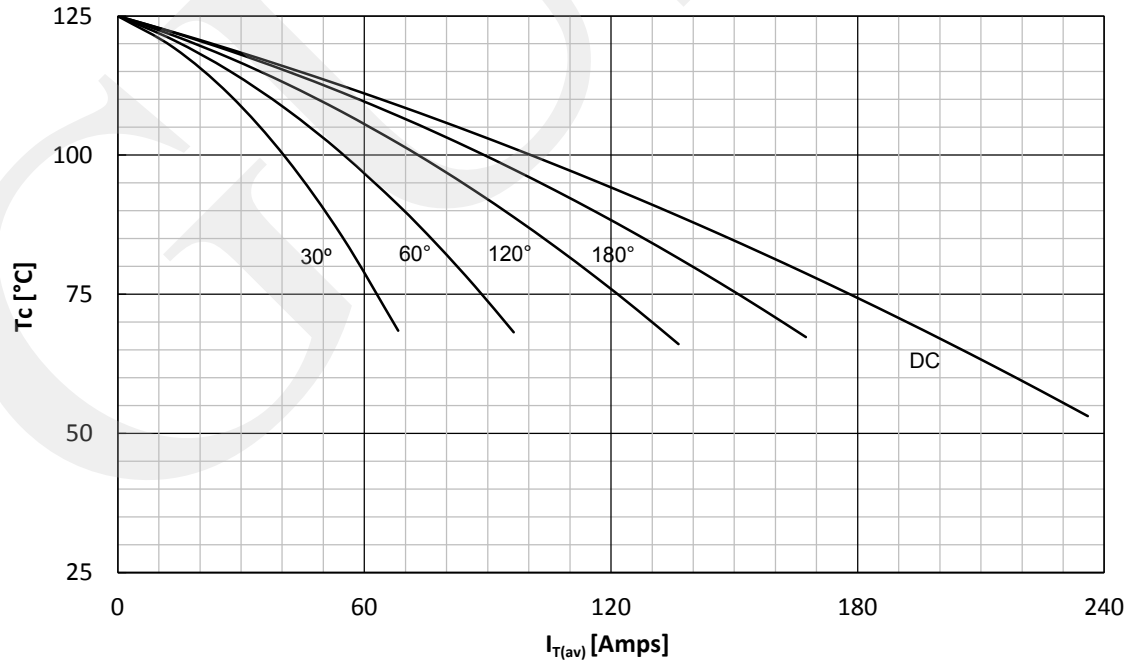
ON STATE CURRENT DERATING CURVE
SINE WAVE

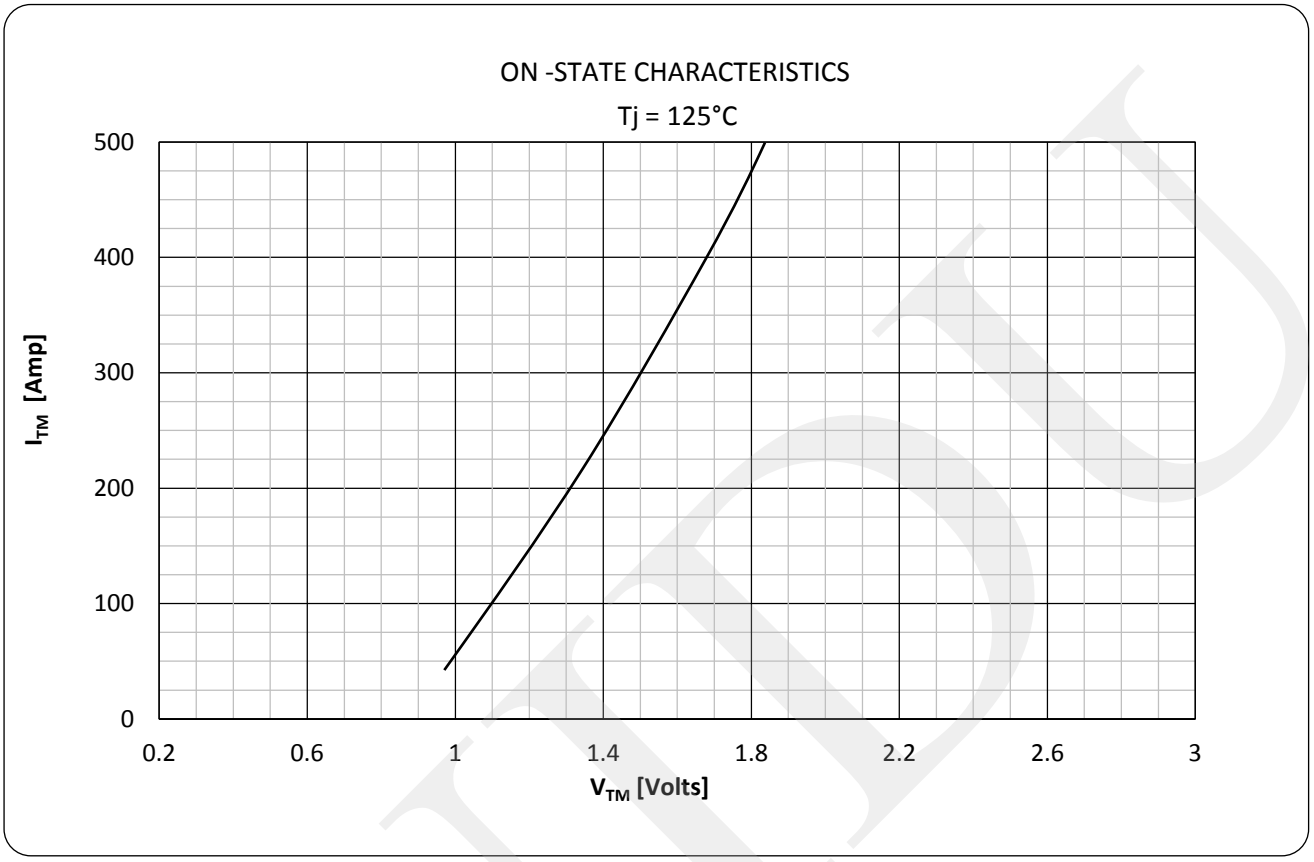


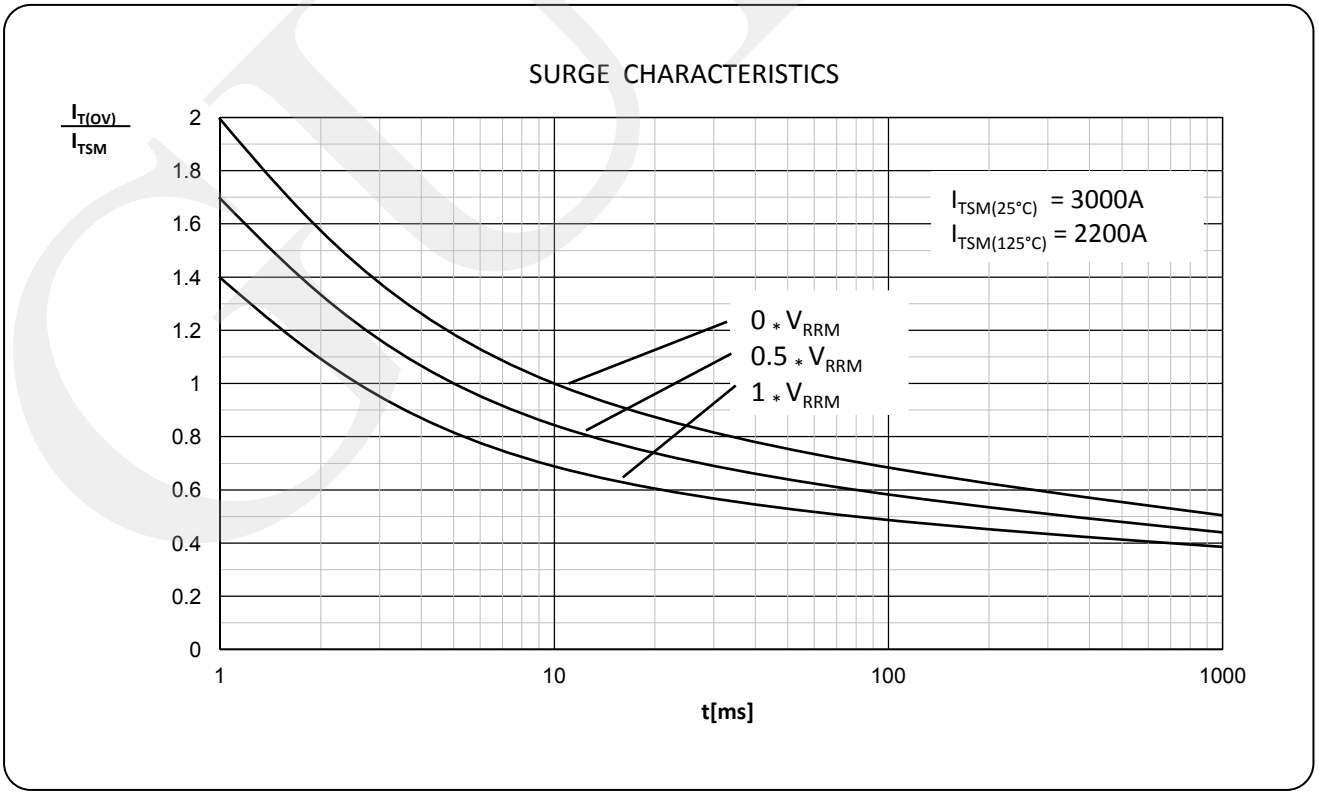
DISSIPATION CHARACTERISTICS
SQUARE WAVE

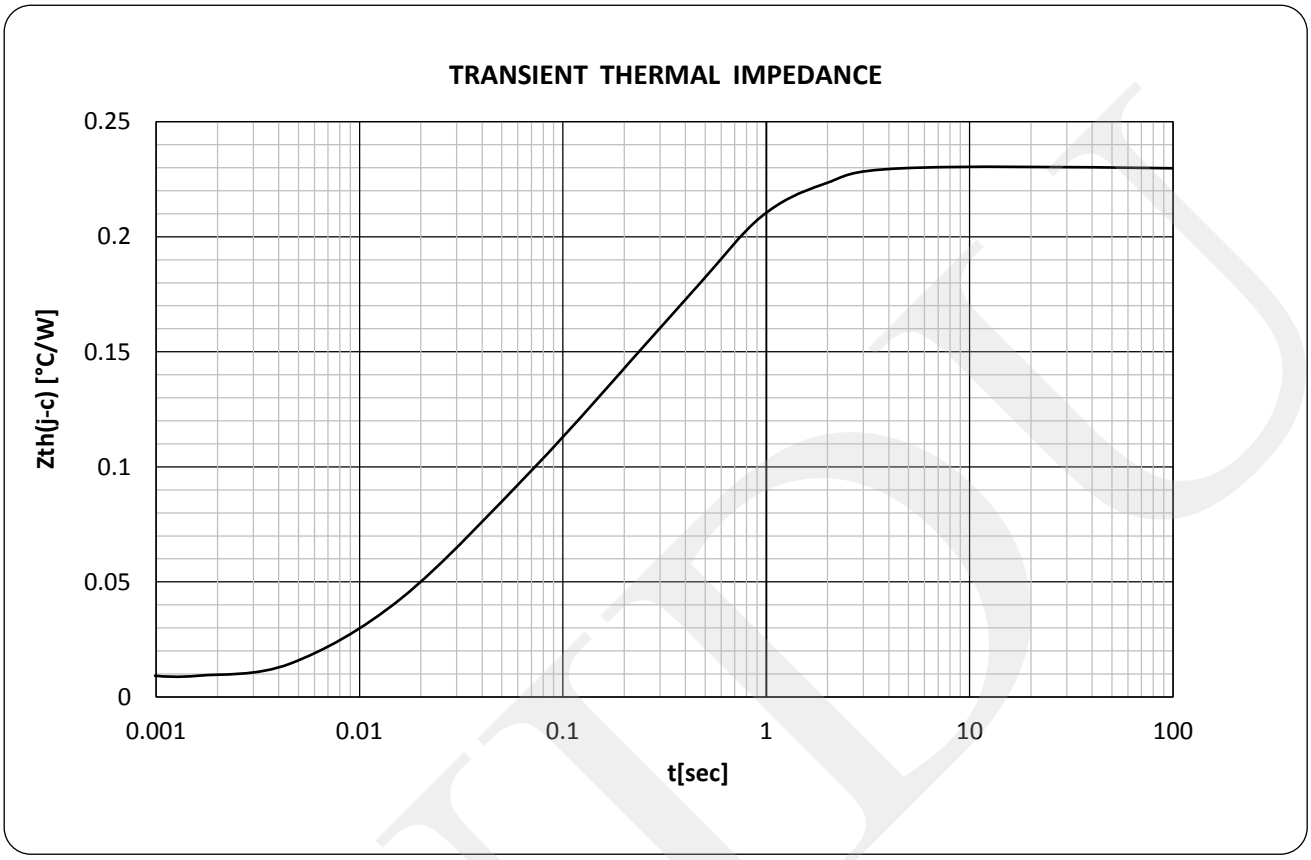


ON STATE CURRENT DERATING CURVE
SQUARE WAVE




ON -STATE CHARACTERISTICS
Tj = 125°C
500
400
300
200
100
0
I_{TM} [Amp]
0.2
0.6
1
1.4
1.8
2.2
2.6
3
V_{TM} [Volts]


SURGE CHARACTERISTICS
$\frac{I_{T(OV)}}{I_{TSM}}$
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1
10
100
1000
t[ms]
$I_{TSM(25°C)}$ = 3000A
$I_{TSM(125°C)}$ = 2200A
0 * V_{RRM}
0.5 * V_{RRM}
1 * V_{RRM}

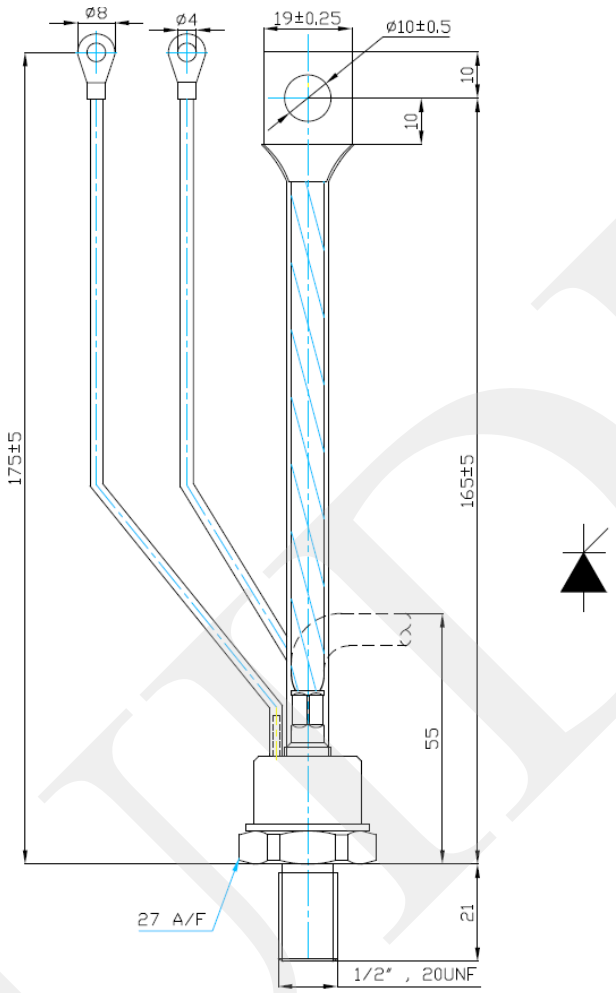


ORDERING INFORMATION

GDKP	150	S	X X	U
Phase Control Thyristor	Current Code	Stud / Flat Base Version	Voltage Code Code X 100 = V_{DRM}/V_{RRM}	Stud Threads U = 1/2" UNF

Order Code GDKP150S16U : 1600V V_{DRM},V_{RRM}, Stud base Thyristor with 1/2" UNF threads

Outline



硅都 GUIDU ® 功率半导体专家 Power Semiconductor Expert

SHANGHAI GUIDU TECHNOLOGY CO., LTD.
No. 3398,Huqingping Rd., Qingpu,
Dist., Shanghai 201703, China

www.guidutech.com

Tel.: +86 573 84828286
Fax.: +86 573 84828278

E-mail : sales@guidutech.com