

SanRex

THYRISTOR / DIODE (ISOLATED TYPE)

PK(PD)160FG40/80/120/160

$I_{T(AV)} = 160A$, $V_{RRM} = 400 - 1600V$

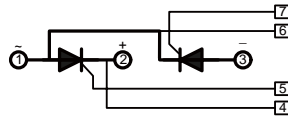
SanRex Thyristor/Thyristor modules (PK series), Thyristor/Diode modules (PD series) are designed for general purpose high voltage applications such as motor controls, temperature controls, lighting controls and UPS.

Features

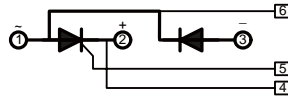
- * Glass-passivated junctions Features
- * High Surge Current
- * Low loss ($V_{TM}=1.5V$)

Typical Applications

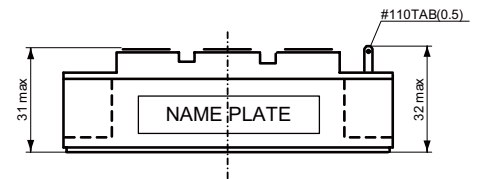
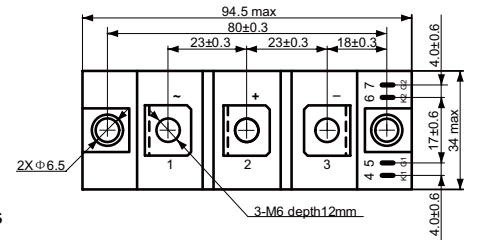
- * Motor Controls
- * Temperature Controls
- * Lighting Controls



PK series



PD series



< Maximum Ratings >

($T_j = 25^\circ C$ unless otherwise noted)

Symbol	Item	Ratings				Unit
		PK160FG40	PK160FG80	PK160FG120	PK160FG160	
V_{RRM}	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V
V_{DRM}	Repetitive Peak Off-state Voltage	400	800	1200	1600	V
$I_{T(AV)}$	Average On-state Current	$T_c = 84^\circ C$			160	A
$I_{T(RMS)}$	R.M.S. On-state Current	$T_c = 84^\circ C$			251	A
I_{TSM}	Surge On-state Current	1/2 cycle, 50Hz/60Hz, Peak value, Non-repetitive			5000/5400	A
$I^2 t$	$I^2 t$ (for fusing)	Value for one cycle surge current			125000	A ² s
P_{GM}	Peak Gate Power Dissipation				10	W
$P_{G(AV)}$	Average Gate Power Dissipation				3	W
I_{FGM}	Peak Gate Current				3	A
V_{FGM}	Peak Gate Voltage (Forward)				10	V
V_{RGM}	Peak Gate Voltage (Reverse)				5	V
di/dt	Critical Rate of Rise of On-state Current	$I_G=100mA$, $V_D=1/2V_{DRM}$, $dig/dt=0.1A/us$			200	A/us
V_{ISO}	Isolation Breakdown Voltage	A.C. 1 minute			2500	
T_j	Operating Junction Temperature				-40 to +125	$^\circ C$
T_{stg}	Storage Temperature				-40 to +125	$^\circ C$
	Mounting	Mounting M6	Recommended Value 2.5 to 3.9		4.7	N*m
	Torque	Terminals M6	Recommended Value 2.5 to 3.9		4.7	
	Mass	Typical Value			210	g

< Electrical Characteristics >

($T_j = 25^\circ C$ unless otherwise noted)

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{DRM}	Repetitive Peak Off-state Current	$T_j = 125^\circ C$, $V_D = V_{DRM}$			35	mA
I_{RRM}	Repetitive Peak Reverse Current	$T_j = 125^\circ C$, $V_R = V_{RRM}$			35	mA
V_{TM}	Peak On-State Voltage	$I_T = 480A$			1.5	V
I_{GT}	Gate Trigger Current	$V_D=6V$, $I_T=1A$			100	mA
V_{GT}	Gate Trigger Voltage	$V_D=6V$, $I_T=1A$			3	V
V_{GD}	Non-Trigger Gate Voltage	$T_j = 125^\circ C$, $V_D=1/2V_{DRM}$	0.25			V
dv/dt	Critical Rate of Rise of Off-state Voltage	$T_j = 125^\circ C$, $V_D=2/3V_{DRM}$	500			V/us
$R_{th(j-c)}$	Thermal Resistance	Junction to case			0.18	$^\circ C/W$