

THYRISTOR / DIODE (ISOLATED TYPE)

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

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

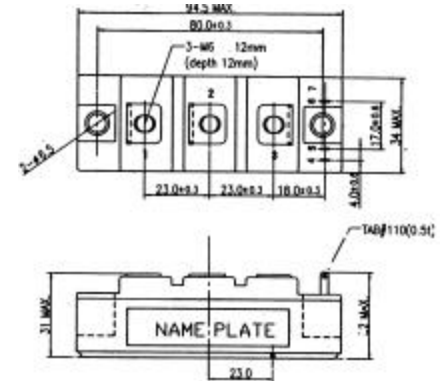
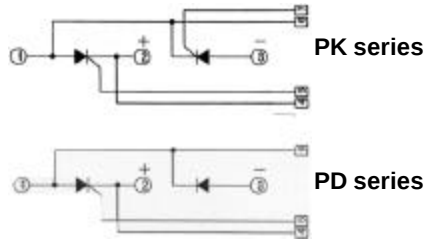
SanRex Thyristor/Thyristor modules (**PK series**), Thyristor/Diode modules (**PD series**) are designed for general purpose high voltage applications such as motor controls, temperature controls, lighting controls and UPS.

Features

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

Typical Applications

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



< 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°C			160	A
I _{T(RMS)}	R.M.S. On-state Current		T _C = 84°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 _{FG M}	Peak Gate Voltage (Forward)					10	V
V _{RG M}	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/ Fs			200	A/Fs
V _{ISO}	Isolation Breakdown Voltage		A.C. 1 minute			2500	
T _j	Operating Junction Temperature					-40 to +125	°C
T _{stg}	Storage Temperature					-40 to +125	°C
	Mounting Torque	Mounting M6	Recommended Value 2.5 to 3.9			4.7	N*m
		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/Fs
$R_{th(j-c)}$	Thermal Resistance	Junction to case			0.18	$^\circ C/W$