

## THYRISTOR / DIODE (ISOLATED TYPE)

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

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

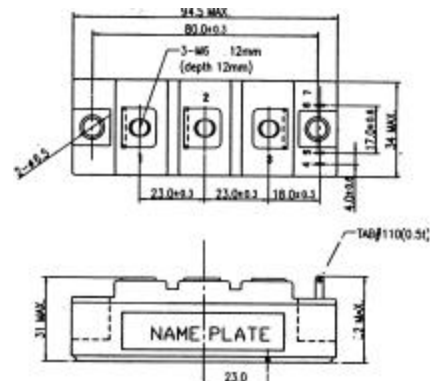
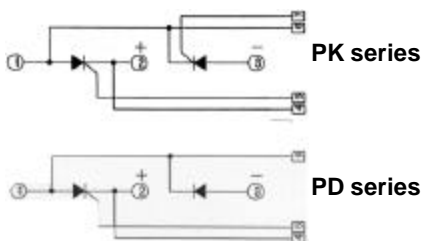
SanRex Thyristor/Thyristor modules (**PK series**), Thyristor/Diode modules (**PD series**) are designed for general purpose high voltage applications such as motor controls, temperature controls, lighting controls and UPS.

#### 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 <sub>RRM</sub>	Repetitive Peak Reverse Voltage		400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage		480	960	1300	1700	V
V <sub>DRM</sub>	Repetitive Peak Off-state Voltage		400	800	1200	1600	V
I <sub>T(AV)</sub>	Average On-state Current		T <sub>C</sub> = 84°C			160	A
I <sub>T(RMS)</sub>	R.M.S. On-state Current		T <sub>C</sub> = 84°C			251	A
I <sub>TSM</sub>	Surge On-state Current		1/2 cycle, 50Hz/60Hz, Peak value, Non-repetitive			5000/5400	A
I <sup>2</sup> t	I <sup>2</sup> t (for fusing)		Value for one cycle surge current			125000	A <sup>2</sup> s
P <sub>GM</sub>	Peak Gate Power Dissipation					10	W
P <sub>G(AV)</sub>	Average Gate Power Dissipation					3	W
I <sub>FGM</sub>	Peak Gate Current					3	A
V <sub>FG M</sub>	Peak Gate Voltage (Forward)					10	V
V <sub>RG M</sub>	Peak Gate Voltage (Reverse)					5	V
di/dt	Critical Rate of Rise of On-state Current		I <sub>G</sub> =100mA, V <sub>D</sub> =1/2V <sub>DRM</sub> , dig/dt=0.1A/ Fs			200	A/Fs
V <sub>ISO</sub>	Isolation Breakdown Voltage		A.C. 1 minute			2500	
T <sub>j</sub>	Operating Junction Temperature					-40 to +125	°C
T <sub>stg</sub>	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	$^\circ C/W$

# Mouser Electronics

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SanRex:

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