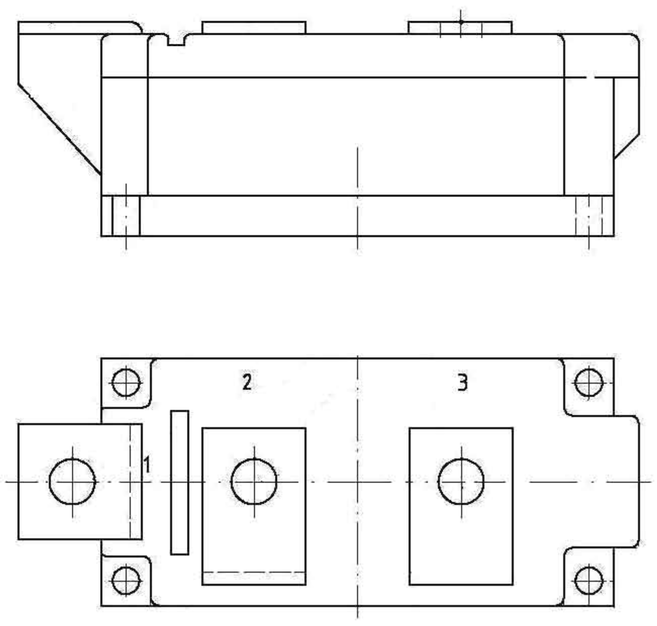
Ruttonsha International Rectifier Ltd.

RUTTONSHA

POWER MODULES

IRK.570 SERIES
High Voltage Diode /Diode
Type:- IRKD 570



FEATURES

- *Electrically isolated base plate.*
- *3000 V_{RMS} isolating voltage.*
- *Industrial standard package.*
- *Simplified mechanical designs, rapid assembly.*
- *High surge capability.*
- *Large creepage distances.*
- *Aluminum Nitride*

DESCRIPTION

These IRK series of Power Modules use power diodes in Three basic configurations. The semiconductors are electrically isolated from the metal base, allowing common heatsinks and compact assemblies to be built. They can be interconnected to form single phase or three phase bridges.

These modules are intended for general purpose applications such as battery chargers, welders and plating equipment.

MAJOR RATINGS & CHARACTERISTICS

Parameters		IRK570	Units
$I_{F(AV)}$	@ $T_C = 100^0C$	570	A
$I_{F(RMS)}$		895	A
I_{FSM}	@ 50 Hz	15000	A
I^2t	@ 50 Hz	1125	kA^2s
V_{RRM}		1200 to 2800	V
T_J		-40 to 135	^0C

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IRKD. 570 SERIES

ELECTRICAL SPECIFICATION

VOLTAGE RATINGS

Type Number	Voltage Code	V_{RRM} max. repetitive peak reverse blocking voltage V	V_{RSM}, max. non- repetitive peak reverse voltage V	I_{RRM} max. @ 135 ^{0}C mA
IRK. 570	12	1200	1300	40
	14	1400	1500	
	16	1600	1700	
	18	1800	1900	
	20	2000	2100	
	22	2200	2300	
	24	2400	2500	
	28	2800	2900	

ON-STATE CONDUCTION

	Parameters	IRKD 570	Units	Conditions	
$I_{F(AV)}$	Max. average forward current	570	A	180^0 conduction, half sine wave	
	@ Case temperature	100	^{0}C		
$I_{F(RMS)}$	Max. RMS forward current	895	A	Tc 100^{0}C	
I_{FSM}	Max. peak, one cycle forward non-repetitive surge current	15000	A	t = 10ms	T_{VJ}= T_J max.
I^2t	Maximum I^2t for fusing	1125	kA^2s	t = 10ms	
V_{TO}	threshold voltage	0.8	V	T_J = T_J max.	
r_t	Slope resistance	0.38	mΩ	T_J = T_J max.	
V_{FM}	Max. forward voltage drop	1.30	V	I_F=1700A, T_J = T_J max.	

IRKD. 570 SERIES

BLOCKING

	Parameter	570	Units	Conditions
I_{RRM}	Max. peak reverse leakage current	40	mA	T_J = 135°C,
V_{INS}	RMS isolation voltage	3000	V	50Hz,Circuit to base, all terminal shorted, t=1 min.

THERMAL AND MECHANICAL SPECIFICATION

	Parameter	IRK. 570	Units	Conditions
T_J	Junction operating temperature	-40 to 135	°C	
T_{stg}	Max. storage temperature range	-40 to 160		
R_{thJ-C}	Thermal resistance, junction to case	0.065	°C/W	Per arm
R_{cs}	Thermal resistance, case to heatsink	0.02	K/W	Per arm
T	Mounting tourque,	4 to 6 8 to 10	Nm Nm	To Heat sink To Terminal
W_T	Approximate Wight	1500	g	

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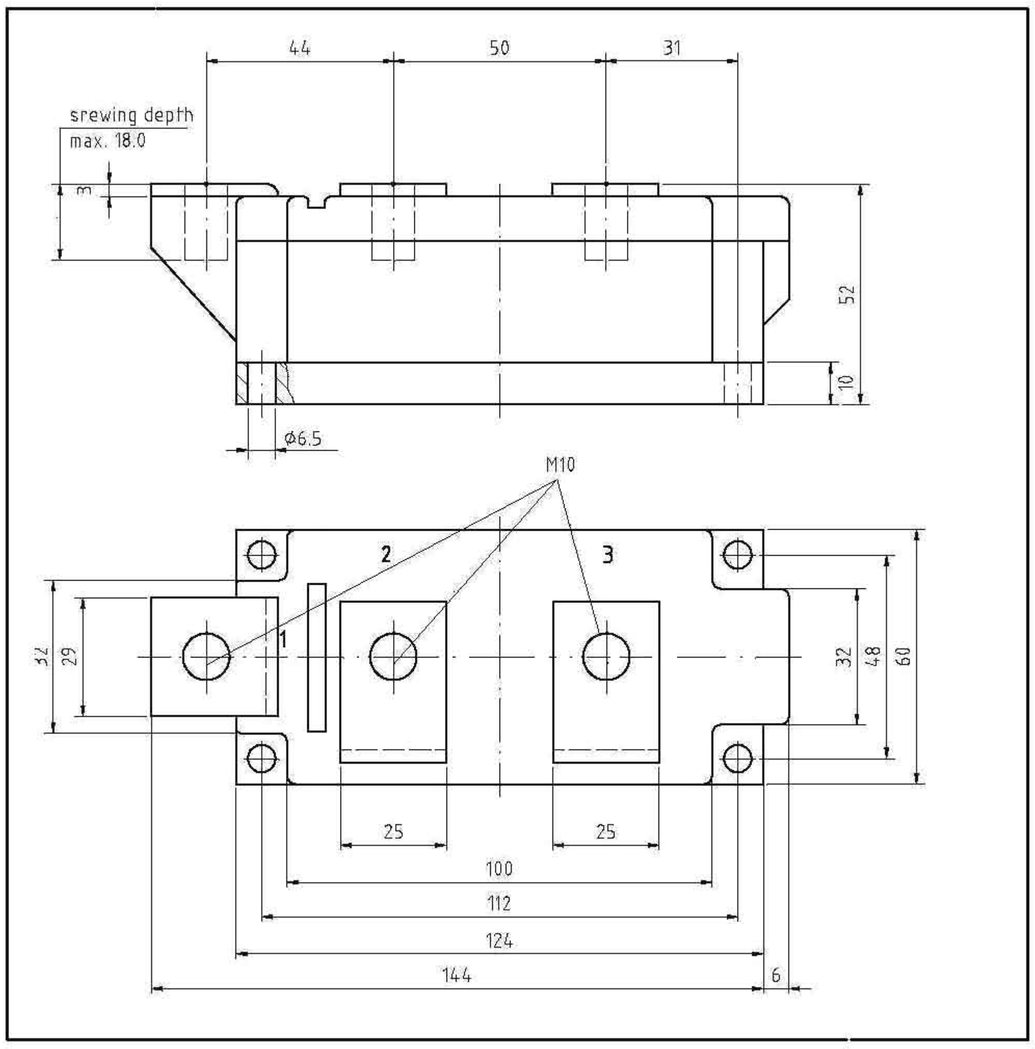
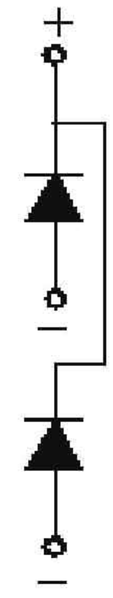
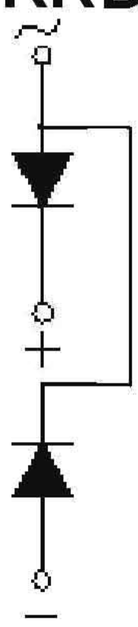
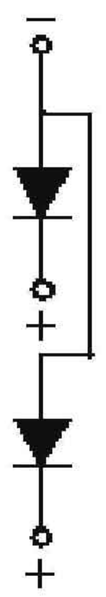
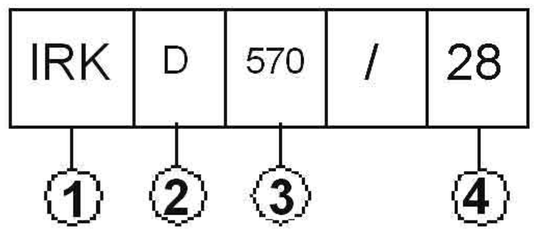
OUTLINE DIAGRAM



Circuit Configuration Table

IRKC	IRKD	IRKJ	IRKE
			

Ordering Information Table



① - **Module type**

② - Circuit configuration (See Circuit Configuration table)

③ - Current Code

④ - Voltage Code (See Voltage Ratings table)