



Ruttonsha International Rectifier Ltd.

SINGLE PHASE HALF CONTROLLED BRIDGE RECTIFIER WITH FREEWHEELING DIODE

SERIES: RI 8BKW 41 & RI 8BKW 60

Features

- * Isolated metal baseplate
- * Fast-on terminals with solder tips
- * High surge current rating

Typical Applications

- * Controllable single-phase rectifier
- * DC power supplies
- * DC motor controllers
- * DC motor field controllers

Electrical Ratings

Symbol	Conditions	RI 8BKW 41	RI 8BKW 60
I_D		41A	61A
T_{CASE}		88°C	85°C
I_{FSM} I^2t	$T_{vj} = 25^\circ\text{C}$, 10ms $T_{vj} = 25^\circ\text{C}$, 8,3...10ms	470A 1100A ² s	470A 1100A ² s
V_F $V_{(TO)}$ r_t I_{RD}/I_{DD}	$T_{vj} = 25^\circ\text{C}$, $I_F = 75\text{A}$ $T_{vj} = 125^\circ\text{C}$ $T_{vj} = 125^\circ\text{C}$ $T_{vj} = 125^\circ\text{C}$; $V_{RD} = V_{RRM}$, $V_{DD} = V_{DRM}$	2.3V 1.0V 16mΩ 10mA	2.3V 1.0V 16mΩ 10mA
t_{gd} t_{gr}	$T_{vj} = 25^\circ\text{C}$; $I_G = 1\text{A}$; $di/dt = 1\text{A}/\mu\text{s}$ $V_D = 0.67 V_{DRM}$	1μs 1μs	1μs 1μs
$(di/dt)_{cr}$ $(dv/dt)_{cr}$ I_H I_L	$T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 0.67 V_{DRM}$ $T_{VJ} = 25^\circ\text{C}$; $R_G = 33\Omega$; typ/max,	150A/μs 1000V/μs 100/ 200mA 250/ 400mA	50A/μs 500V/μs 100/ 200mA 250/ 400mA
R_{thj-c} R_{thch} T_{vj} T_{stg}	Per Diode / Per Thyristor total total	1.0°C/W 0.25°C/W 0.05 °C/W	1.0° C/W 0.167 °C/W -40... +125° C -40... +125° C
V_{isol} M_1 M_2 w	A.C. 50...60Hz; r.m.s. ; 1min case to heat sink Bus bar to terminals	2500V 5 Nm ± 15 % 5 Nm ± 15 % 165g.	

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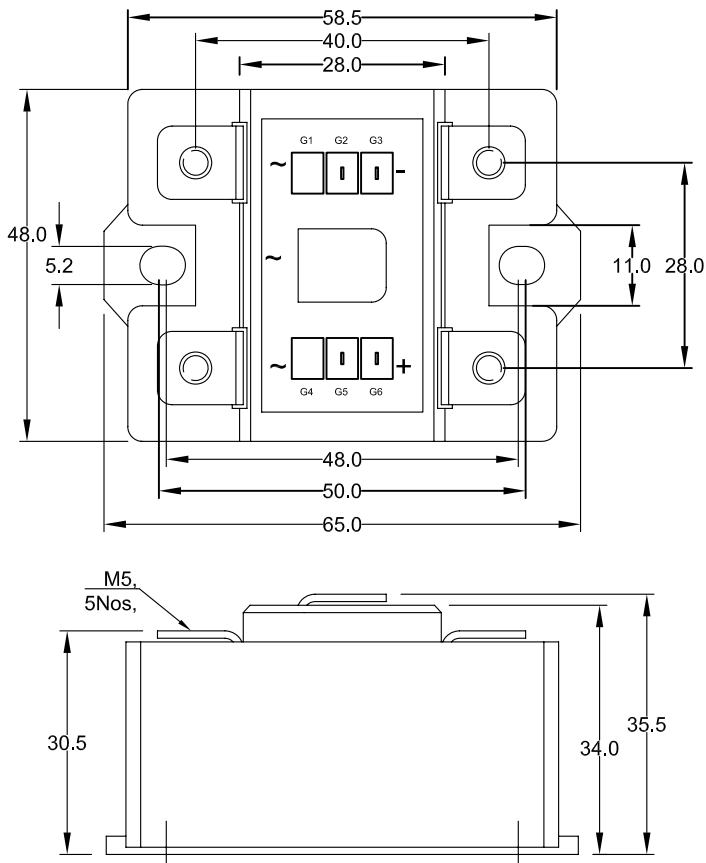
Electrical Ratings

Symbol	Conditions	RI 8BKW 41	RI 8BKW 60
V_{GT}	$T_{VJ} = 25^{\circ}\text{C}; d, c,$	3V	3V
I_{GT}	$T_{VJ} = 25^{\circ}\text{C}; d, c,$	150mA	150mA
V_{GD}	$T_{VJ} = 125^{\circ}\text{C}; d, c,$	0.25V	0.25V
I_{GD}	$T_{VJ} = 25^{\circ}\text{C}; d, c,$	5mA	5mA

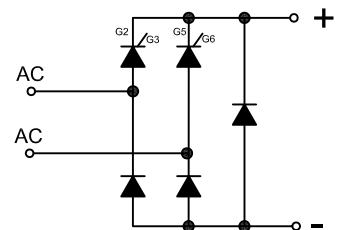
VOLTAGE & APPLICATION DATA

TYPE NUMBER			80	100	120	140
V_{RRM} / V_{DRM}	Maximum repetitive peak reverse & off state voltage	V	800	1000	1200	1400
V_{RSM}	Maximum non-repetitive peak reverse & off state voltage	V	900	1100	1300	1500
V_{RMS}	Recommended AC supply voltage	V	320	400	480	560
I_{RM} / I_{DRM}	Maximum peak reverse current per diode $T_J = T_{J \text{ max}}$	mA	10	10	10	10

RI 8BKW



SERIES RI 8BKW CIRCUITS



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WITH FREEWHEELING DIODE

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ORDER INFORMATION TABLE

RI 8BKW	41/60	/	140
①	②		③

- ① Essential Part Number
- ② Curren Code
- ③ Voltage Rating (See table)