

SKDM / SKDN 60



Power Bridge Rectifiers

SKDM 60, SKDN 60

Features

- Isolated metal case with screw terminals
- Internally matched diodes to allow parallel connections
- Blocking voltage up to 1600 V
- High surge currents
- Easy chassis mounting

Typical Applications

- Center-Tap input rectifier for power supplies
- Blocking diodes for connection of redundant power supplies/batteries
- Medium power isolated diodes for general purpose use.
- Battery charger rectifiers
- Recommended snubber network:
RC: 50 Ω , 0.1 μ F ($P_R = 1$ W)

- 1) Freely suspended or mounted on an insulator
- 2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm
- 3) Recommended

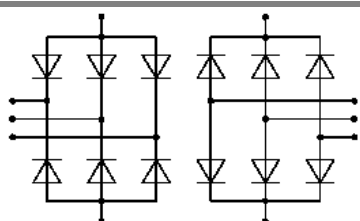
V_{RSM}, V_{RRM} V	$V_{RMS}^{3)}$ V	$I_D = 60$ A ($T_c = 95$ °C, single M2U output) Types	
400	125	SKDM 60/04	SKDN 60/04
800	250	SKDM 60/08	SKDN 60/08
1000	310	SKDM 60/10	SKDN 60/10
1200	400	SKDM 60/12	SKDN 60/12
1600	500	SKDM 60/16	SKDN 60/16

Symbol	Condition for 3 outputs	Values	Units
I_D	$T_c = 65$ °C (3 x M2U connection)	31	A
I_{DCL}	$T_c = 65$ °C (3 x M2U connection)	24	A
I_{FSM}	$T_{vj} = 25$ °C ; 10 ms	370	A
i^2t	$T_{vj} = 150$ °C ; 10 ms	320	A
	$T_{vj} = 25$ °C ; 8,3 ... 10 ms	680	A ² s
	$T_{vj} = 150$ °C ; 8,3 ... 10 ms	500	A ² s
V_F	$T_{vj} = 25$ °C, $I_F = 150$ A	max. 2,2	V
$V_{(TO)}$	$T_{vj} = 150$ °C	0,85	V
r_T	$T_{vj} = 150$ °C	12	m Ω
I_{RD}	$T_{vj} = 25$ °C ; $V_{RD} = V_{RRM}$	300	μ A
I_{RD}	$T_{vj} = 150$ °C ; $V_{RD} = V_{RRM}$	5	mA
t_{rr}	$T_{vj} = 25$ °C	typ. 25	μ s
f_G		2000	Hz
$R_{th(j-a)}$	isolated ¹⁾	8,5	K/W
	chassis ²⁾	3,3	K/W
$R_{th(j-c)}$	total	0,7	K/W
$R_{th(c-s)}$	total	0,1	K/W
T_{vj}		-40 ... +150	°C
T_{stg}		-55 ... +150	°C
V_{isol}	a. c. 50 ... 60 Hz; r.m.s.; 1 s / 1 min.	3000 / 2500	V~
M_1	to heatsink	SI units 5 \pm 15 %	Nm
		US units 44 \pm 15 %	Lb. in.
M_2	to terminals	SI units 1,5 \pm 15 %	Nm
		US units 13 \pm 15 %	Lb. in.
M	approx.	115	g
Case		G 13 modified	

Symbol	Condition for single output	Values	Units
I_D	$T_c = 65$ °C (M2U with 3 paralleled diodes)	84	A
I_{DCL}	$T_c = 65$ °C (M2U with 3 paralleled diodes)	64	A
I_{FSM}	$T_{vj} = 25$ °C ; 10 ms	1000	A
i^2t	$T_{vj} = 150$ °C ; 10 ms	850	A
	$T_{vj} = 25$ °C ; 8,3 ... 10 ms	5000	A ² s
	$T_{vj} = 150$ °C ; 8,3 ... 10 ms	3600	A ² s

Symbol	Condition for 6 paralleled diodes*	Values	Units
I_D	$T_c = 65$ °C (E1U with 6 paralleled diodes)	84	A
I_{DCL}	$T_c = 65$ °C (E1U with 6 paralleled diodes)	64	A
I_{FSM}	$T_{vj} = 25$ °C ; 10 ms	2000	A
i^2t	$T_{vj} = 150$ °C ; 10 ms	1700	A
	$T_{vj} = 25$ °C ; 8,3 ... 10 ms	20000	A ² s
	$T_{vj} = 150$ °C ; 8,3 ... 10 ms	14400	A ² s

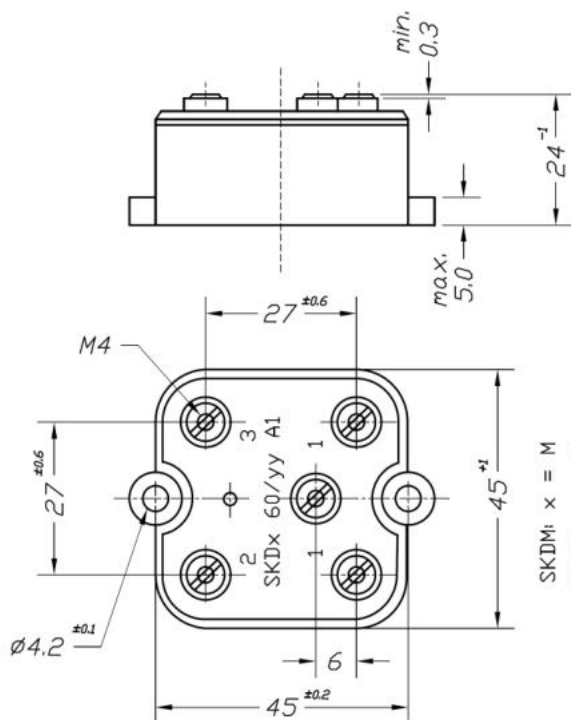
* With all 6 internal diodes connected in parallel as a single diode.
2 bridges are necessary to build a M2U rectifier in this case.



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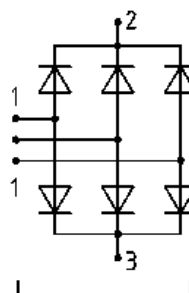
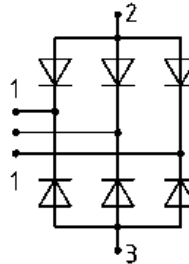
SKDN

Dimensions in millimeters

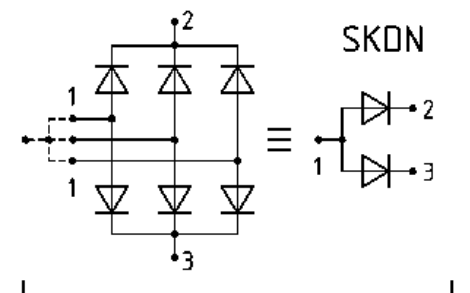
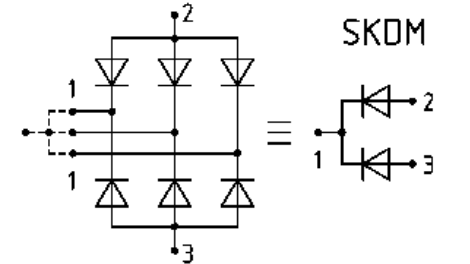


SKDM: x = M
SKDN: x = N
yy = Vrrm / 100

With 3 outputs



With single output (paralleled diodes)



Case G13 modified

Notes:

Connections with single output are created by short-circuiting the bridge terminals "1". This connection must be made with busbars or cables large enough to ensure good current sharing between paralleled diodes. Inputs 2 and 3 can also be short-circuited to transform it in a single isolated power diode (six internal diodes in parallel). This connection also must be made with busbars or cables large enough to ensure good current sharing between paralleled diodes. Current capacity when using paralleled diodes can be calculated as on non-paralleled diodes and after multiplying it by the number of diodes that are working in parallel. A derating of 10% is recommended on resulting values.

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