Diotec Semiconductor

POWER RECTIFIERS IN D²PAK PACKAGE

Discrete Solutions for Power Applications

Discrete power components are state-of-the-art in various applications. They offer cost-effective, robust, easy to assemble and reliable solutions for many kinds of power circuits. Diotec's product portfolio includes Standard, Fast, Superfast Efficient and Schottky Barrier Rectifiers. Single and dual diodes are available in both 2 pin and 3 pin D²PAK outlines (TO-263AA & AB).

We are dedicated to develop discrete power semiconductors and also provide optimized solutions to contribute greater energy savings and performance of modern power electronics.

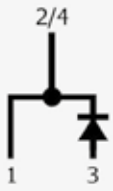
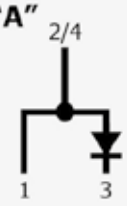
Features/Benefits

- High current density: 8 A to 40 A
- Low power losses, high efficiency
- High reliable/thermally efficient packages
- Proven outline for heatsink assembly
- TO-263AB (2 pin) and TO-263AA (3 pin) versions
- Single and Dual diodes
- 3rd Gen Schottkys available

Applications

- Switch Mode Power Supplies (SMPS)
- DC / DC Converters
- AC and DC Drives
- Input and Output Rectification
- Power Factor Correction (PFC)
- Free-wheeling Diodes
- Polarity Protection
- OR-ing Circuits

Power Rectifiers in TO-263AB/D²PAK Package:

Cathode to tab	Anode to tab	Cathode=tab Anode=pins	Dual Diodes Common Cathode	Dual Diodes in Series
"K" 	"A" 	"Y" 	"C" 	"S" 

Standard Recovery			**Features/Benefits** › Single and Dual Diodes › Common Cathode and Series Connection › High Forward Surge Currents				**Applications** › Power Supplies › Polarity Protection › OR-ing Diodes	
Type	**I_{FAV}**	**$V_F@I_{FAV}$**	**V_{RRM}**	**$I_R@V_{RRM}$**	**I_{FSM}@10ms**	**-**	**Configuration**	**Fig.**
S15AYD2 ... S15MYD2	**15 A**	**< 1.1 V**	**50 ... 1000 V**	**< 5 µA**	**250 A**		Single/Anode on 2 Pins	Y
S16ASD2 ... S16MSD2	**2x 8 A**	**< 1.1 V**	**50 ... 1000 V**	**< 5 µA**	**135 A**		Series Connection	S

Fast Recovery **Low V_F**			**Features/Benefits** › Very Low Forward Voltage Drop › Low Leakage Currents › High Forward Surge Currents				**Applications** › Power Tool Switches › Free-Wheeling Diodes › Polarity Protection	
Type	**I_{FAV}**	**$V_F@I_{FAV}$**	**V_{RRM}**	**$I_R@V_{RRM}$**	**I_{FSM}@10ms**	**t_{rr}**	**Configuration**	**Fig.**
FR20AAD2 ...FR20GAD2	**20 A**	**< 0.96 V**	**50 ... 400 V**	**< 5 µA**	**375 A**	**< 200 ns**	Single/Anode to Tab	A
FR20AKD2 ... FR20GKD2	**20 A**	**< 0.96 V**	**50 ... 400 V**	**< 5 µA**	**375 A**	**< 200 ns**	Single/Cathode to Tab	K

Superfast Efficient			**Features/Benefits** › Very Low Reverse Recovery › Low Forward Voltage Drop › Low Leakage Currents				**Applications** › Power Factor Correction › Output Rectifiers › DC/DC Converters	
Type	**I_{FAV}**	**$V_F@I_{FAV}$**	**V_{RRM}**	**$I_R@V_{RRM}$**	**I_{FSM}@10ms**	**t_{rr}**	**Configuration**	**Fig.**
UGB8AT ... UGB8DT	**8 A**	**< 1.00 V**	**50 ... 200 V**	**< 5 µA**	**112 A**	**< 25 ns**	Single/Cathode to Tab	K
UGB8GT	**8 A**	**< 1.25 V**	**400 V**	**< 5 µA**	**112 A**	**< 35 ns**	Single/Cathode to Tab	K
UGB8JT	**8 A**	**< 1.75V**	**600 V**	**< 5 µA**	**112 A**	**< 35 ns**	Single/Cathode to Tab	K

High Temperature/ **High Voltage Schottky**			**Features/Benefits** › Low Forward Voltage Drop › Low Reverse Leakage Current › Reverse Voltage up to 200V › T_{jmax} = 175°C				**Applications** › Polarity Protection › Output Rectifiers › DC/DC Converters › OR-ing Diodes	
Type	**I_{FAV}**	**$V_F@I_{FAV}$**	**V_{RRM}**	**$I_R@V_{RRM}$**	**I_{FSM}@10ms**	**-**	**Configuration**	**Fig.**
MBRS20200CT	**2x 10 A**	**< 0.95 V**	**200 V**	**< 5 µA**	**130 A**		Common Cathode	C
30CTQ035S ... 30CTQ045S	**2x 15 A**	**< 0.62V**	**35 ... 45 V**	**< 50 µA**	**265 A**		Common Cathode	C

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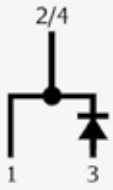
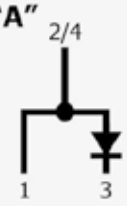
Power Rectifiers in TO-263AB/D²PAK Package:

Cathode to tab	Anode to tab	Cathode=tab Anode=pins	Dual Diodes Common Cathode	Dual Diodes in Series
"K" 	"A" 	"Y" 	"C" 	"S" 

Standard Schottky

Features/Benefits
- Very Low Forward Voltage Drop
- Extremely Low Reverse Recovery
- Parts in 3rd Gen Chip Technology (-3G): Low V_F and I_R
- T_{jmax} = 150°C

Applications
- Polarity Protection
- Output Rectifiers
- DC/DC Converters
- OR-ing Diodes

Type	I_{FAV}	V_F@I_{FAV}	V_{RRM}	I_R@V_{RRM}	I_{FSM}@10ms	-	Configuration	Fig.
SK1040D2-3G ... SK1045D2-3G	10 A	< 0.50 V	40 ... 45 V	< 120 µA	250 A		Single/Cathode to Tab	K
SK1050D2 ... SK1060D2	10 A	< 0.70 V	50 ... 60 V	< 300 µA	135 A		Single/Cathode to Tab	K
SK1080D2 ... SK10100D2	10 A	< 0.83 V	80 ... 100 V	< 300 µA	115 A		Single/Cathode to Tab	K
SK1840D2-3G ... SK1845D2-3G	18 A	< 0.535 V	40 ... 45 V	< 100 µA	280 A		Single/Cathode to Tab	K
SK1540YD2-3G ... SK1545YD2-3G	15 A	< 0.50 V	40 ... 45 V	< 100 µA	280 A		Single/Anode on 2 Pins	Y
SK2540YD2-3G ... SK2545YD2-3G	25 A	< 0.56 V	40 ... 45 V	< 100 µA	290 A		Single/Anode on 2 Pins	Y
SK2040CD2-3G ... SK2045CD2-3G	2x 10 A	< 0.50 V	20 ... 45 V	< 120 µA	130 A		Common Cathode	C
SK2050CD2 ... SK2060CD2	2x 10 A	< 0.70 V	50 ... 60 V	< 300 µA	100 A		Common Cathode	C
SK2080CD2 ... SK20100CD2	2x 10 A	< 0.85 V	80 ... 100 V	< 300 µA	100 A		Common Cathode	C
SK3040CD2-3G ... SK3045CD2-3G	2x 15 A	< 0.55 V	20 ... 45 V	< 100 µA	280 A		Common Cathode	C
SK3050CD2 ... SK3060CD2	2x 15 A	< 0.70 V	50 ... 60 V	< 300 µA	130 A		Common Cathode	C
SK3080CD2 ... SK30100CD2	2x 15 A	< 0.85 V	80 ... 100 V	< 300 µA	110 A		Common Cathode	C
SK4045CD2-3G	2x 20 A	< 0.53 V	45 V	< 100 µA	290 A		Common Cathode	C

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