



# POWER RECTIFIERS IN D<sup>2</sup>PAK 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 D<sup>2</sup>PAK 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.

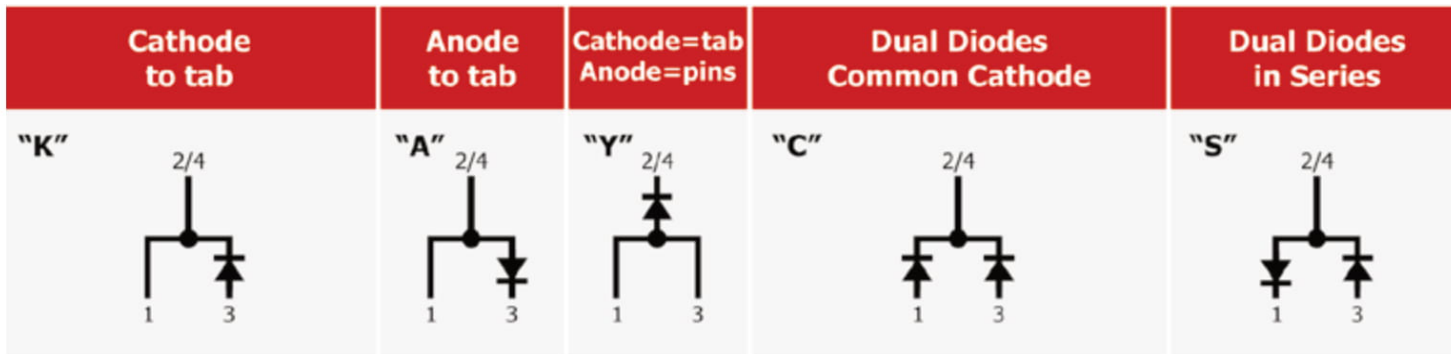
### Features/Benefits

- › 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
- › 3<sup>rd</sup> 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/D<sup>2</sup>PAK Package:



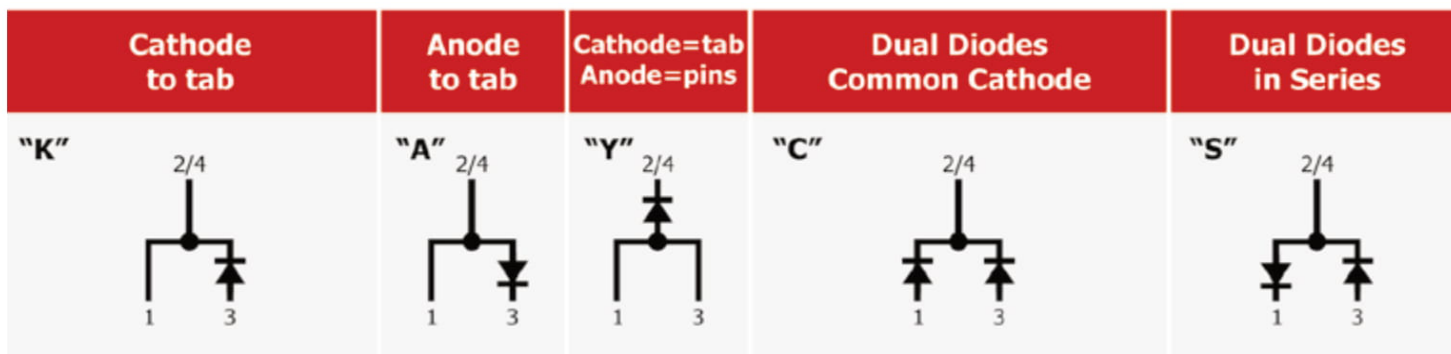
Standard Recovery		Features/Benefits					Applications	
		<ul style="list-style-type: none"> <li>› Single and Dual Diodes</li> <li>› Common Cathode and Series Connection</li> <li>› High Forward Surge Currents</li> </ul>					<ul style="list-style-type: none"> <li>› Power Supplies</li> <li>› Polarity Protection</li> <li>› OR-ing Diodes</li> </ul>	
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 $\mu$ A	250 A		Single/Anode on 2 Pins	Y
S16ASD2 ... S16MSD2	2x 8 A	< 1.1 V	50 ... 1000 V	< 5 $\mu$ A	135 A		Series Connection	S

Fast Recovery Low $V_F$		Features/Benefits					Applications	
		<ul style="list-style-type: none"> <li>› Very Low Forward Voltage Drop</li> <li>› Low Leakage Currents</li> <li>› High Forward Surge Currents</li> </ul>					<ul style="list-style-type: none"> <li>› Power Tool Switches</li> <li>› Free-Wheeling Diodes</li> <li>› Polarity Protection</li> </ul>	
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 $\mu$ A	375 A	< 200 ns	Single/Anode to Tab	A
FR20AKD2 ... FR20GKD2	20 A	< 0.96 V	50 ... 400 V	< 5 $\mu$ A	375 A	< 200 ns	Single/Cathode to Tab	K

Superfast Efficient		Features/Benefits					Applications	
		<ul style="list-style-type: none"> <li>› Very Low Reverse Recovery</li> <li>› Low Forward Voltage Drop</li> <li>› Low Leakage Currents</li> </ul>					<ul style="list-style-type: none"> <li>› Power Factor Correction</li> <li>› Output Rectifiers</li> <li>› DC/DC Converters</li> </ul>	
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 $\mu$ A	112 A	< 25 ns	Single/Cathode to Tab	K
UGB8GT	8 A	< 1.25 V	400 V	< 5 $\mu$ A	112 A	< 35 ns	Single/Cathode to Tab	K
UGB8JT	8 A	< 1.75V	600 V	< 5 $\mu$ A	112 A	< 35 ns	Single/Cathode to Tab	K

High Temperature/ High Voltage Schottky		Features/Benefits					Applications	
		<ul style="list-style-type: none"> <li>› Low Forward Voltage Drop</li> <li>› Low Reverse Leakage Current</li> <li>› Reverse Voltage up to 200V</li> <li>› <math>T_{jmax} = 175^\circ\text{C}</math></li> </ul>					<ul style="list-style-type: none"> <li>› Polarity Protection</li> <li>› Output Rectifiers</li> <li>› DC/DC Converters</li> <li>› OR-ing Diodes</li> </ul>	
Type	$I_{FAV}$	$V_F @ I_{FAV}$	$V_{RRM}$	$I_R @ V_{RRM}$	$I_{FSM} @ 10ms$	-	Configuration	Fig.
MBR520200CT	2x 10 A	< 0.95 V	200 V	< 5 $\mu$ A	130 A		Common Cathode	C
30CTQ0355 ... 30CTQ0455	2x 15 A	< 0.62V	35 ... 45 V	< 50 $\mu$ A	265 A		Common Cathode	C

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Standard Schottky		Features/Benefits				Applications		
		<ul style="list-style-type: none"> <li>› Very Low Forward Voltage Drop</li> <li>› Extremely Low Reverse Recovery</li> <li>› Parts in 3rd Gen Chip Technology (-3G): Low <math>V_F</math> and <math>I_R</math></li> <li>› <math>T_{jmax} = 150^{\circ}C</math></li> </ul>				<ul style="list-style-type: none"> <li>› Polarity Protection</li> <li>› Output Rectifiers</li> <li>› DC/DC Converters</li> <li>› OR-ing Diodes</li> </ul>		
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 $\mu A$	250 A		Single/Cathode to Tab	K
SK1050D2 ... SK1060D2	10 A	< 0.70 V	50 ... 60 V	< 300 $\mu A$	135 A		Single/Cathode to Tab	K
SK1080D2 ... SK10100D2	10 A	< 0.83 V	80 ... 100 V	< 300 $\mu A$	115 A		Single/Cathode to Tab	K
SK1840D2-3G ... SK1845D2-3G	18 A	< 0.535 V	40 ... 45 V	< 100 $\mu A$	280 A		Single/Cathode to Tab	K
SK1540YD2-3G ... SK1545YD2-3G	15 A	< 0.50 V	40 ... 45 V	< 100 $\mu A$	280 A		Single/Anode on 2 Pins	Y
SK2540YD2-3G ... SK2545YD2-3G	25 A	< 0.56 V	40 ... 45 V	< 100 $\mu A$	290 A		Single/Anode on 2 Pins	Y
SK2040CD2-3G ... SK2045CD2-3G	2x 10 A	< 0.50 V	20 ... 45 V	< 120 $\mu A$	130 A		Common Cathode	C
SK2050CD2 ... SK2060CD2	2x 10 A	< 0.70 V	50 ... 60 V	< 300 $\mu A$	100 A		Common Cathode	C
SK2080CD2 ... SK20100CD2	2x 10 A	< 0.85 V	80 ... 100 V	< 300 $\mu A$	100 A		Common Cathode	C
SK3040CD2-3G ... SK3045CD2-3G	2x 15 A	< 0.55 V	20 ... 45 V	< 100 $\mu A$	280 A		Common Cathode	C
SK3050CD2 ... SK3060CD2	2x 15 A	< 0.70 V	50 ... 60 V	< 300 $\mu A$	130 A		Common Cathode	C
SK3080CD2 ... SK30100CD2	2x 15 A	< 0.85 V	80 ... 100 V	< 300 $\mu A$	110 A		Common Cathode	C
SK4045CD2-3G	2x 20 A	< 0.53 V	45 V	< 100 $\mu A$	290 A		Common Cathode	C