



**POWER RECTIFIERS
IN TO-220 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 TO-220AC (2 pin) and AB (3 pin) packages. Our proprietary Protectifiers® offer low forward voltage drop at high reverse robustness – protected rectifiers indeed!

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

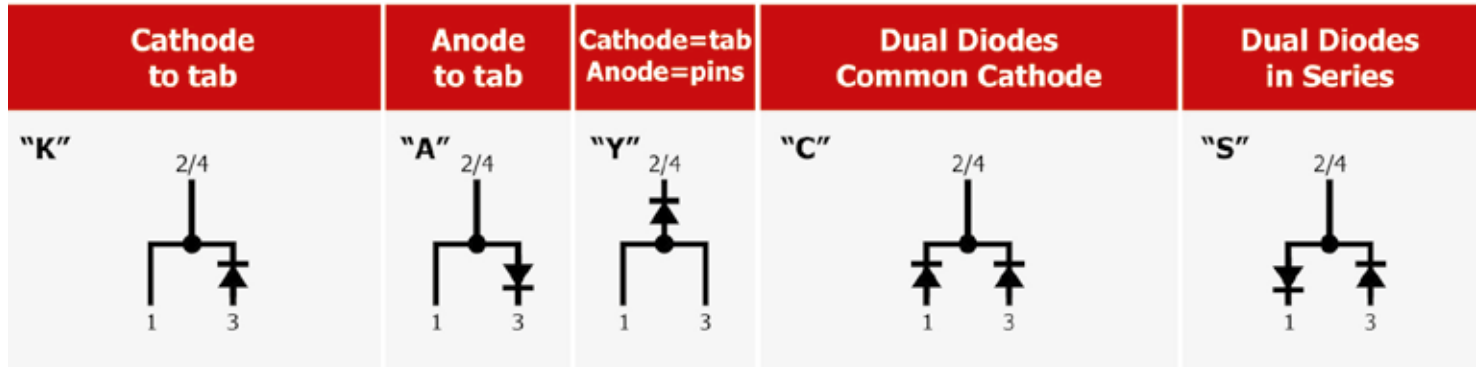
Features/Benefits

- › High current density: 8 A to 30 A
- › Low power losses, high efficiency
- › High reliable/thermally efficient packages
- › Proven outline for heatsink assembly
- › TO-220AC & AB (2 pin & 3 pin)
- › Single and Dual diodes
- › Protectifiers® and 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-220AB/AC:



Standard Recovery		Features/Benefits					Applications	
		<ul style="list-style-type: none"> Single and Dual Diodes Common Cathode and Series Connection High Forward Surge Currents 					<ul style="list-style-type: none"> 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.
PT800A ... PT800M	8 A	< 1.1 V	50 ... 1000 V	< 5 μ A	135 A		Single/Cathode to Tab	K
PCT1600A ... PCT1600M	2x 8 A	< 1.1 V	50 ... 1000 V	< 5 μ A	135 A		Common Cathode	C
PST1600A ... PST1600M	2x 8 A	< 1.1 V	50 ... 1000 V	< 5 μ A	135 A		Series Connection	S

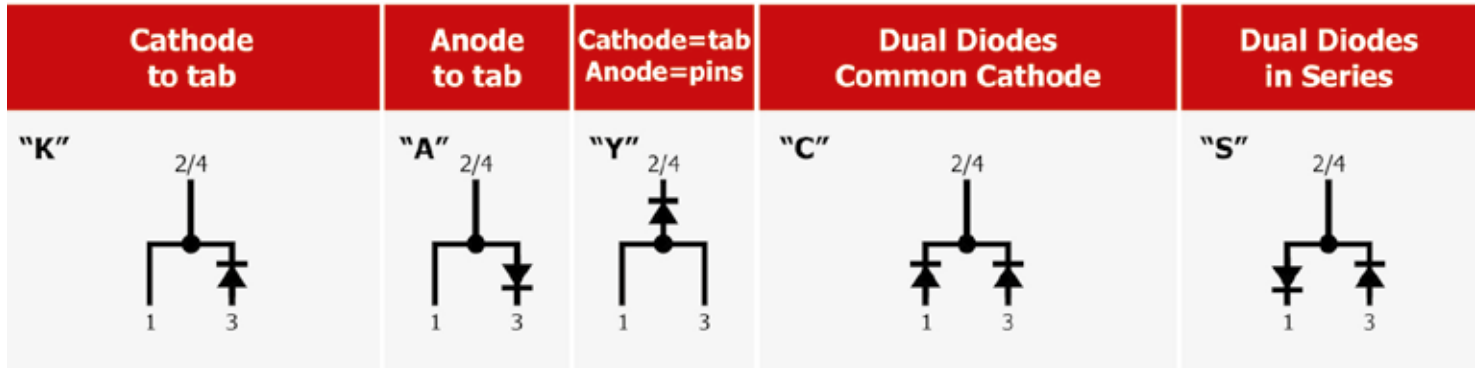
Fast Recovery Low V_F		Features/Benefits					Applications	
		<ul style="list-style-type: none"> Very Low Forward Voltage Drop Low Leakage Currents High Forward Surge Currents 					<ul style="list-style-type: none"> Power Tool Switches Free-Wheeling Diodes Polarity Protection 	
Type	I_{FAV}	$V_F @ I_{FAV}$	V_{RRM}	$I_R @ V_{RRM}$	$I_{FSM} @ 10ms$	t_{tr}	Configuration	Fig.
FT2000AA ... FT2000AG	20 A	< 0.96 V	50 ... 400 V	< 5 μ A	350 A	< 200 ns	Single/Anode to Tab	A
FT2000KA ... FT2000KG	20 A	< 0.96 V	50 ... 400 V	< 5 μ A	350 A	< 200 ns	Single/Cathode to Tab	K

Protectifiers®		Features/Benefits					Applications	
		<ul style="list-style-type: none"> Avalanche Rated Low Forward Voltage Drop Low Leakage Currents High Forward Surge Currents 					<ul style="list-style-type: none"> Power Tool Switches Free-Wheeling Diodes DC Drives 	
Type	I_{FAV}	$V_F @ I_{FAV}$	V_{WM}	$I_R @ V_{WM}$	$I_{FSM} @ 10ms$	t_{tr}	Configuration	Fig.
KT20A120 ... KT20A150	20 A	< 0.98 V	120 ... 150 V	< 5 μ A	350 A	< 300 ns	Single/Anode to Tab	A
KT20K120 ... KT20K150	20 A	< 0.98 V	120 ... 150 V	< 5 μ A	350 A	< 300 ns	Single/Cathode to Tab	K

Superfast Efficient		Features/Benefits					Applications	
		<ul style="list-style-type: none"> Very Low Reverse Recovery Low Forward Voltage Drop Low Leakage Currents 					<ul style="list-style-type: none"> 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_{tr}	Configuration	Fig.
UFT800A ... UFT800D	8 A	< 1.00 V	50 ... 200 V	< 5 μ A	112 A	< 25 ns	Single/Cathode to Tab	K
UFT800G	8 A	< 1.25 V	400 V	< 5 μ A	112 A	< 35 ns	Single/Cathode to Tab	K
UFT800J	8 A	< 1.75V	600 V	< 5 μ A	112 A	< 35 ns	Single/Cathode to Tab	K
MUR860	8 A	< 1.50 V	600 V	< 5 μ A	90 A	< 50 ns	Single/Cathode to Tab	K

Version 05/2020

Power Rectifiers in TO-220AB/AC:



High Temperature/ High Voltage Schottky		Features/Benefits				Applications		
		<ul style="list-style-type: none"> › Low Forward Voltage Drop › Low Reverse Leakage Current › Reverse Voltage up to 200V › $T_{jmax} = 175^{\circ}\text{C}$ 				<ul style="list-style-type: none"> › Polarity Protection › Output Rectifiers › DC/DC Converters › OR-ing Diodes 		
Type	I_{FAV}	$V_F @ I_{FAV}$	V_{RRM}	$I_R @ V_{RRM}$	$I_{FSM} @ 10\text{ms}$	-	Configuration	Fig.
MBR10100	10 A	< 0.80 V	100 V	< 5 μA	135 A		Single/Cathode to Tab	K
MBR10200CT	2x 5 A	< 0.84 V	200 V	< 5 μA	80 A		Common Cathode	C
MBR20100CT	2x 10 A	< 0.80 V	100 V	< 5 μA	130 A		Common Cathode	C
MBR20150CT	2x 10 A	< 0.90 V	150 V	< 5 μA	130 A		Common Cathode	C
MBR20200CT	2x 10 A	< 0.95 V	200 V	< 5 μA	130 A		Common Cathode	C
30CTQ035 ... 30CTQ045	2x 15 A	< 0.62 V	35 ... 45 V	< 50 μA	265 A		Common Cathode	C

Standard Schottky		Features/Benefits				Applications		
		<ul style="list-style-type: none"> › Very Low Forward Voltage Drop › Extremely Low Reverse Recovery › Parts in 3rd Gen Chip Technology (-3G): Low V_F and I_R › $T_{jmax} = 150^{\circ}\text{C}$ 				<ul style="list-style-type: none"> › Polarity Protection › Output Rectifiers › DC/DC Converters › OR-ing Diodes 		
Type	I_{FAV}	$V_F @ I_{FAV}$	V_{RRM}	$I_R @ V_{RRM}$	$I_{FSM} @ 10\text{ms}$	-	Configuration	Fig.
SBT1040-3G ... SBT1045-3G	10 A	< 0.50 V	40 ... 45 V	< 120 μA	250 A		Single/Cathode to Tab	K
SBT1050 ... SBT1060	10 A	< 0.70 V	50 ... 60 V	< 300 μA	135 A		Single/Cathode to Tab	K
SBT1090 ... SBT10100	10 A	< 0.85 V	90 ... 100 V	< 300 μA	115 A		Single/Cathode to Tab	K
SBT1840-3G ... SBT1845-3G	18 A	< 0.535 V	40 ... 45 V	< 100 μA	280 A		Single/Cathode to Tab	K
SBCT1020 ... SBCT1045	2x 5 A	< 0.55 V	20 ... 45 V	< 300 μA	100 A		Common Cathode	C
SBCT1050 ... SBCT1060	2x 5 A	< 0.70 V	50 ... 60 V	< 300 μA	100 A		Common Cathode	C
SBCT1090 ... SBCT10100	2x 5 A	< 0.85 V	90 ... 100 V	< 300 μA	100 A		Common Cathode	C
SBCT2020 ... SBT2045	2x 10 A	< 0.55 V	20 ... 45 V	< 300 μA	130 A		Common Cathode	C
SBCT2050 ... SBCT1060	2x 10 A	< 0.70 V	50 ... 60 V	< 300 μA	130 A		Common Cathode	C
SBCT2090 ... SBCT20100	2x 10 A	< 0.85 V	90 ... 100 V	< 300 μA	110 A		Common Cathode	C
SBCT30100	2x 15 A	< 0.75 V	100 V	< 100 μA	220 A		Common Cathode	C
SBCT30150 ... SBCT30200	2x 15 A	< 0.85 V	150 ... 200 V	< 100 μA	220 A		Common Cathode	C