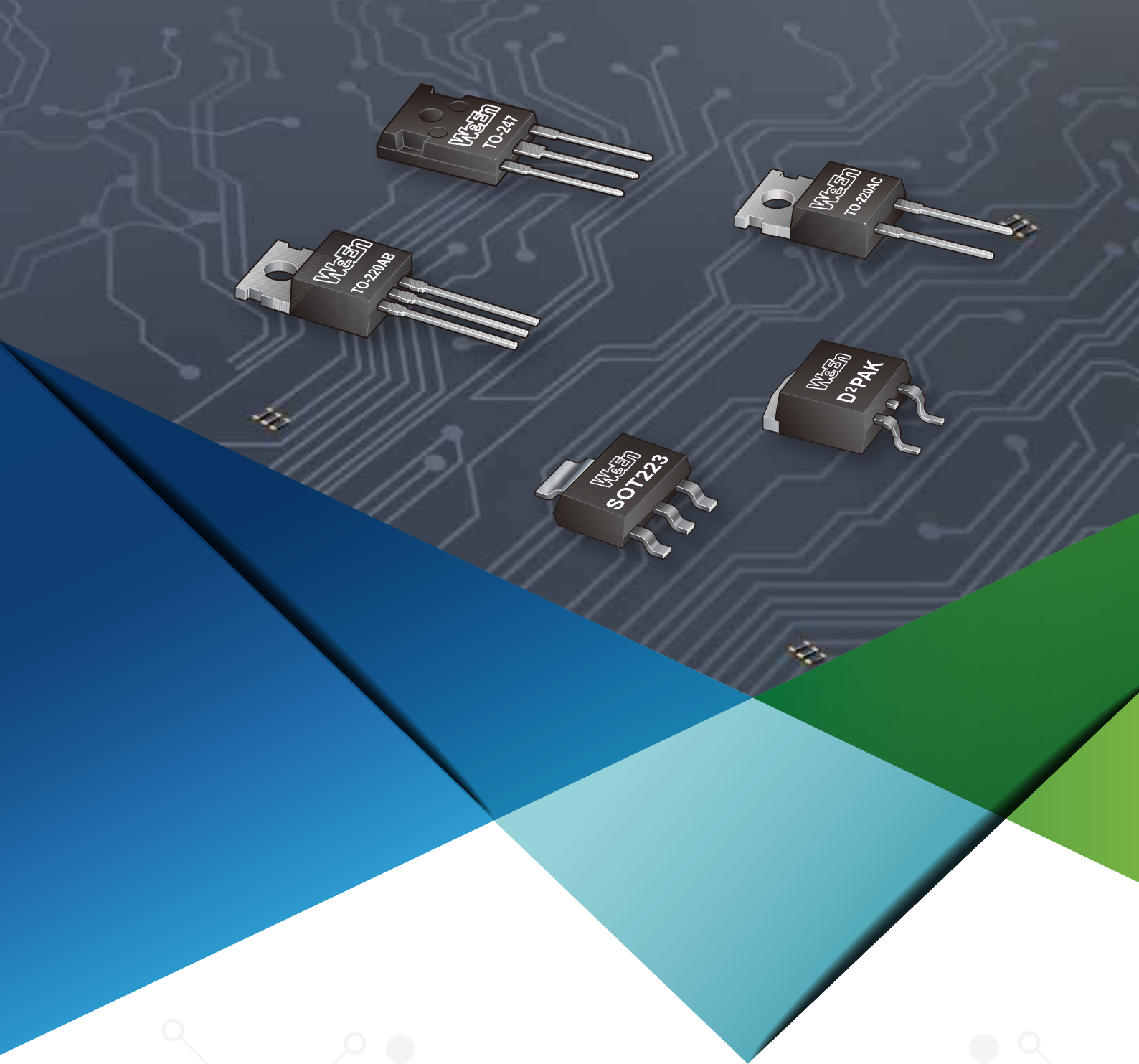




WeEn Semiconductors Product Selection Guide

WeEn Semiconductors: 50-Years Leading Experience in Power



Welcome to the 2019 edition of WeEn Semiconductors Selection Guide. Here we present all our devices to give you a complete overview of our portfolio. As a key player in the semiconductor industry, WeEn has focused on developing a large portfolio of industry-leading bipolar power products including thyristors (i.e. silicon controlled rectifiers and triacs), silicon power diodes and high voltage transistors. Additionally, WeEn has developed a state-of-the-art portfolio of silicon carbide diodes and power Schottky diodes as well as making available a number of AECQ products. All these products are widely used in the markets for telecommunications, computers, consumer electronics, intelligent home appliances, lighting, automotive and power management applications.

With over 50 years of design and manufacture experience, WeEn helps to drive up efficiency in your designs with the creative spirit of innovation and desire for quality.

AC THYRISTOR TRIACS / AC THYRISTORS

AC THYRISTOR TRIACS

(3Q Hi-Com power switches, overvoltage protection)

Types in **bold red** represent new products

$I_{T(RMS)}$ (A)	V_{DRM} (V)	I_{GT} (max) (mA)	SOT78 (TO220AB)	SOT186A (isolated TO220AB)	SOT223	SOT226 (I ² PAK)	SOT404 (D ² PAK)	SOT428 (DPAK)
2	800	E		ACTT2X				ACTT2S
2	800	ETN		ACTT2X	ACTT2W			ACTT2S
4	800	C/E		ACTT4X				ACTT4S
6	800	E	ACTT6	ACTT6X		ACTT6G	ACTT6B	
6	800	CN	ACTT6	ACTT6X			ACTT6B	
8	800	C0/C0T	ACTT8	ACTT8X			ACTT8B	
8	800	CTN	ACTT8	ACTT8X			ACTT8B	
10	800	C/CT	ACTT10	ACTT10X				
10	800	CTN	ACTT10	ACTT10X			ACTT10B	
12	800	C/CT	ACTT12	ACTT12X			ACTT12B	
12	800	CTN	ACTT12	ACTT12X			ACTT12B	
16	800	CTN	ACTT16	ACTT16X			ACTT16B	

I_{GT} key: C = 35 mA; C0 = 5 - 30 mA; E = 10 mA

T: high $T_j(max)$ 150 °C N: Enhanced Dynamic Performance

In the spotlight

AC Thyristor Triacs ACTT10 series, ACTT12 series

Planar passivated with overvoltage clamping function

High energy surge handling

Very high dV/dt for maximum immunity to false triggering

High $T_j(max)$ to 150 °C



AC THYRISTORS

(2Q Hi-Com power switches, exclusive negative gate triggering, 'Common' mounting base, overvoltage protection)

$I_{T(RMS)}$ (A)	V_{DRM} (V)	I_{GT} (max) (mA)	SOT54 (TO92)	SOT223	SO8
0.2	600	D			ACT102H
0.8	600	D/E	ACT108	ACT108W	
	800	E	ACT108	ACT108W	

I_{GT} key: D = 5 mA; E = 10 mA

In the spotlight

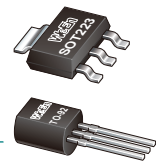
AC Thyristors ACT108-800E , ACT108W-800E

Planar passivated with overvoltage clamping function

Working voltage increased to 800V

Enhanced overvoltage clamping capability

High false trigger immunity



TEMPERATURE AND OVERLOAD PROTECTED TRIACS (TOPTriac)

2Q Hi-Com power switches, exclusive negative gate triggering, over-temperature protection

Types in **bold red italic** represent products in development

$I_{T(RMS)}$ (A)	V_{DRM} (V)	I_{GT} (max) (mA)	SOT78 (TO220)	TO263 (D ² PAK)
12	800	C0	TOPT12	
16	800	C0	TOPT16	TOPT16B

I_{GT} key:
C0 = 5 - 35mA

In the spotlight

TOPTriac TOPT12, TOPT16

Planar passivated for voltage ruggedness & reliability

Over temperature & over load protection

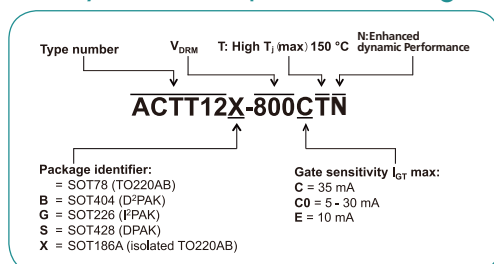
No need to over-specify triac and heatsink

Avoid loss of control at high temperature

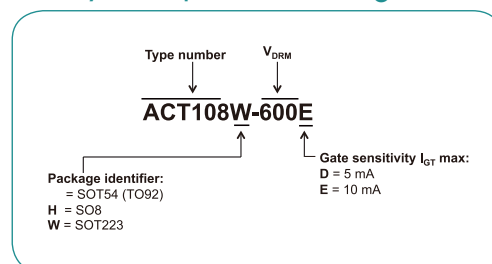
Status monitoring with help of microcontroller



AC Thyristor Triacs part numbering



AC Thyristors part numbering



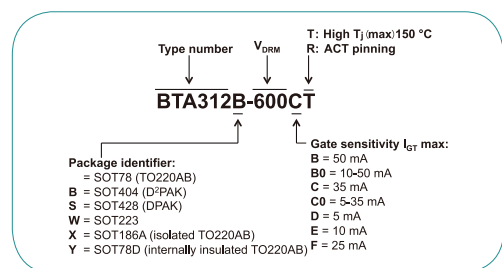
3Q Hi-Com TRIACS (0.8A - 45A)

Types in **bold red** represent new products
Types in **bold red italic** represent products in development

$I_{T(RMS)}$ (A)	V_{DRM} (V)	$I_{GT(max)}$ (mA)	SOT54 (TO92)	SOT78 (TO220AB)	SOT78D (internally insulated TO220AB)	SOT186A (isolated TO220AB)	SOT223	SOT226 (I ² PAK)	SOT404 (D ² PAK)	SOT428 (DPAK)	SOT1292 (internally insulated TO-3P)
0.8	600 / 800	D					BTA2008W				
	600 / 800	D/E	BTA2008								
	1000	D	BTA2008								
	1000	DN	BTA2008								
1	600 / 800	B/E/ER	BTA201								
	600 / 800	E					BTA201W				
	600	B/C/D/E/F					BTA204W*				
	800	C/E					BTA204W*				
2	600 / 800	D/E				BTA202X					
3	800	CT	BTA203								
4	600	B/C/D/E/F		BTA204		BTA204X				BTA204S	
	800	B/C/E		BTA204		BTA204X				BTA204S	
	1000	C				BTA204X				BTA204S	
6	800	CT/ET		BTA206		BTA206X					
8	600	D		BTA208		BTA208X				BTA208S	
	600 / 800	B/E/F		BTA208		BTA208X				BTA208S	
	800	CT				BTA208X					
	800	B0/C0				BTA308X					
	800	C0T			BTA308Y						
	800	ET		BTA308		BTA308X				BTA308S	
	800	F0				BTA308X					
	1000	B				BTA208X					
	1000	C0				BTA208X					
	1000	C0T				BTA408X*					
10	600 / 800	C/D/E		BTA310		BTA310X					
12	600 / 800	BT/CT/ET		BTA410*	BTA410Y*	BTA410X*					
	600	CT		BTA312				BTA312G	BTA312B		
	600	D		BTA312		BTA312X			BTA312B		
	600 / 800	B/C/E		BTA312		BTA312X			BTA312B		
	600 / 800	C			BTA312Y						
	600 / 800	B/C			BTA412Y*						
	600 / 800	ET			BTA412Y*						
	800	CT		BTA312		BTA312X					
	800	ET		BTA312					BTA312B		
	600	BT		BTA316					BTA316B		
16	600	B0		BTA316					BTA316B		
	600	CT							BTA316B		
	600	D		BTA316							
	600 / 800	B/C/E		BTA316		BTA316X			BTA316B		
	600 / 800	ET		BTA316							
	600 / 800	B/C			BTA416Y*						
	800	B0		BTA316		BTA316X					
	800	BT/CT			BTA316Y						
	800	CT		BTA316		BTA316X					
	800	BT/CT		BTA420*	BTA420Y*	BTA420X*					
20	800	BT/CT		BTA225							
25	600 / 800	B		BTA225					BTA225B		
	800	BT							BTA225B		
	800	BT/CT			BTA425Y*						
	800	B/BT				BTA425X*					
30	800	BT		BTA330		BTA330X					
40	800	BT/CT			BTA330Y						
	800	BT									BTA440Z*
45	800	BT									BTA445Z

3Q Triacs part numbering

*high surge I_{TSM} I_{GT} key: B= 50 mA, B0 = 10 - 50 mA, C = 35 mA, C0 = 5 - 35 mA, D = 5 mA, E = 10 mA, F = 25 mA T: high $T_J(max)$ 150 °C R: ACT Pinning



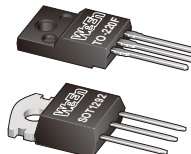
In the spotlight

3Q Hi-Com Triacs BTA425, BTA330, BTA440, BTA445

Planar passivated for voltage ruggedness and reliability

High junction operating temperature capability (150 °C)
Less sensitive gate for high noise immunity

High commutation, high dV/dt for maximum immunity to false triggering



4Q Triacs

(0.6A - 45A)

Types in **bold red** represent new products

$I_{T(RMS)}$ (A)	V_{DRM} (V)	$I_{GT(max)}$ (mA)	SOT54 (TO92)	SOT78 (TO220AB)	SOT78D (internally insulated TO220AB)	SOT82	SOT186A (isolated TO220AB)	SOT223	SOT404 (D ² PAK)	SOT428 (DPAK)	SOT1292 (inte. nally insulated TO-3P)
0.6	400	5/5/5/7	MAC97A6								
	600	5/5/5/7	MAC97A8								
	600	3/3/3/7						BT131W			
1	600 / 800	3/3/3/7	BT131								
	600 / 800	5/5/5/7	BT131-D								
	600 / 800	10/10/10/10	BT131-E								
	600 / 800	3/3/3/5	Z0103MA/NA					Z0103MN/NN			
	600 / 800	5/5/5/7	Z0107MA/NA					Z0107MN/NN			
	600 / 800	10/10/10/10	Z0109MA/NA					Z0109MN/NN			
	600 / 800	3/3/3/5	Z0103MA0/NA0**					Z0103MNO/NN0**			
	600 / 800	5/5/5/7	Z0107MA0/NA0**					Z0107MNO/NN0**			
	600 / 800	10/10/10/10	Z0109MA0/NA0**					Z0109MNO/NN0**			
	600	5/5/5/10	BT132-D*								
	600	D/E/-						BT134W*			
	800	-						BT134W*			
4	600	D/E/-/G				BT134					
	800	E/-				BT134					
	600 / 800	D/E		BT234*			BT234X*				
	600	D/-		BT136			BT136X			BT136S	
	600	F					BT136X			BT136S	
	600 / 800	E		BT136			BT136X		BT136B	BT136S	
	800	F								BT136S	
6	800	-					BT136X			BT136S	
	600	F/-/G					BT236X				
	800	-/G					BT236X				
8	600	D/-/G		BT137			BT137X				BT137S
	600	E		BT137			BT137X		BT137B	BT137S	
	600	F					BT137X		BT137B	BT137S	
	600 / 800	G0/G0T		BT137							
	800	E		BT137			BT137X			BT137S	
	800	F							BT137B	BT137S	
	800	-		BT137			BT137X		BT137B	BT137S	
	800	G							BT137B	BT137S	
12	600	D		BT138			BT138X				
	600	-/G		BT138			BT138X		BT138B		
	600	F					BT138X		BT138B		
	600	G0/G0T		BT138							
	600 / 800	E		BT138	BT138Y		BT138X		BT138B		
	800	F					BT138X				
	800	-		BT138			BT138X				
	800	G		BT138							
16	600 / 800	B			BTA16						
	600	E/-		BT139			BT139X		BT139B		
	600	F/G					BT139X		BT139B		
	600	G0/G0T		BT139							
	800	E		BT139					BT139B		
	800	F							BT139B		
	800	-		BT139			BT139X		BT139B		
	800	G		BT139					BT139B		
20	600	50/50/50/75					MAC223A8X				
25	400	50/50/50/75		MAC223A6							
	600	G0/G0T		BTA140							
	600 / 800	-		BTA140							
40	600 / 800	B									BTA41
45	800	B									BTA45

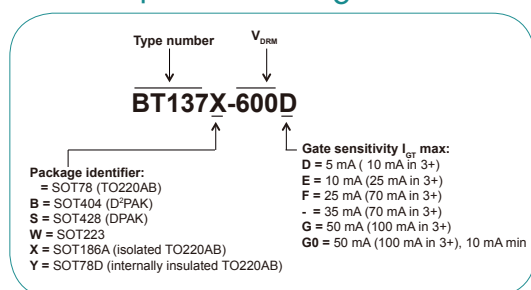
I_{GT} key:

D = 5mA (10mA in 3+); E = 10mA (25mA in 3+); F = 25mA (70mA in 3+); - = 35mA (70mA in 3+); G = 50mA (100mA in 3+);

G0 = 50mA (100mA in 3+), 10mA min

* High I_{TSM} ** Enhanced immunity to false triggering T: high $T_J(max)$ 150 °C

4Q Triacs part numbering



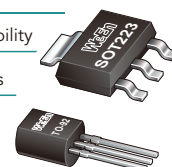
In the spotlight

4Q Triacs Z010***0 series

Planar passivated for voltage ruggedness and reliability

Improved dynamic performance over Z010*** series

Best false trigger immunity for sensitive 4Q triacs



SILICON CONTROLLED RECTIFIERS

(0.8A - 126A)

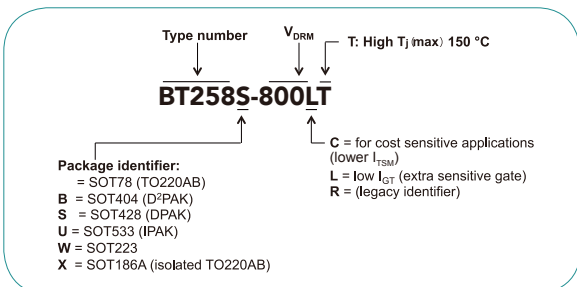
Types in **bold red** represent new products

Types in **bold red italic** represent products in development

$I_{T(RMS)}$ (A)	$I_{T(AV)}$ (A)	V_{DRM} & V_{RRM} (V)	I_{GT} (mA)	SOT54 (TO92)	SOT78 (TO220AB)	SOT82	SOT89	SOT186A (isolated TO220AB)	SOT223	SOT404 (D ² PAK)	SOT428 (DPAK)	SOT429 (TO-247)	SOT533 (IPAK)	SOT1259 (TO-3P)	SOT1292
0.8	0.5	200	0.2							MCR08BT1					
		400	0.012	EC103D1						EC103D1W					
		600	0.5µA min - 7µA max	N0118GA											
		200 / 400 / 600	0.2	BT149B/D/G											
		200 / 400 / 600	0.2	BT169B/D/G											
		400	0.015 min - 0.05 max	BT169D-L											
		500 / 600	0.02 min - 0.2 max	BT168E/G											
		600	0.015 min - 0.05 max	BT169G-L											
		600	0.03 min - 0.06 max	BT169G-M											
		600	0.015 min - 0.1 max				NCR100Q-6M								
1	0.6	800	0.1	BT169H											
		800	0.015 min - 0.05 max	BT169H-L											
		600	0.02 min - 0.2 max							BT168GW					
1.1	0.7	600	0.07 min - 0.45 max							BT168GWF**					
		600	0.2							BT148W-R*					
		850	0.015 min - 0.05 max							NCR100W-10L					
1.25	0.8	850	0.1							NCR100W-10M					
		1000	0.015 min - 0.05 max							NCR100W-12L					
		1000	0.1							NCR100W-12M					
4	2.5	1250	0.1							NCR125W-125M					
		400 / 500 / 600	0.2			BT148-R									
		500	0.2		BT150-R										
8	5	600	0.2					BT258X-R			BT150S-R				
		600	0.2		BT258-R										
		600	5										BT258U-R		
		800	0.05								BT300S-R				
		800	0.2								BT258S-LT				
12	7.5	800	0.2								BT258S-R				
		650	0.2								BT151S-S				
		500 / 650	5		BT151-L*						BT151S-L*				
		600	5							TYN12B-LT					
		650	1.5-5		BT151-LTN			BT151X-LTN							
		650	15								BTH151S-R*				
		500 / 650 / 800	15		BT151-C			BT151X-C					BT151U-C		
		500 / 650 / 800	15		BT151-R*			BT151X-R*			BT151S-R*				
16	10	500 / 1000	15		BT151-RT*										
		600	15		TYN16-CT			TYN16X-CT		TYN16B-CT	TYN16S-CT				
		600 / 800	25		TYN16-RT*			TYN16X-RT*							
20	13	400 / 600 / 800	32		BT152-R			BT152X-R		BT152B-R					
		500	32		BT152-RT										
		600	32							TYN20B-T					
		800	32		TYN20-T			TYN20X-T		TYN20B-T					
25	16	800	1.5 - 10		BT145-RT										
		800	35		BT145-R			BT145X-R							
31	20	1200	32		BT152-T										
40	25	800	15		TYN40-T										
47	30	1200	50							BT153B-T-A					
79	50	1200	50									BT155W-T		BT155K-T	BT155Z-T
		1200	50									BT155W-T-A			
		1600	80									TYN50W-T			
94	60	1400	80											TYN60K-T	
126	80	1200	70									BT158W-T			
		1600	80									TYN80W-T			

high I_{TSM} ** Hi-Com / fast turn-off T: high T_j (max) 150 °C A: Automotive qualified AEC-Q101

Silicon Controlled Rectifiers part numbering



In the spotlight

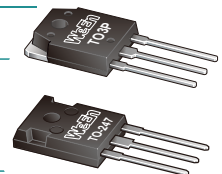
High Voltage, high surge capability SCR BT155 series, BT158, TYN60

Planar passivated for voltage ruggedness and reliability

Very low on-state voltage (V_T) contributes to best efficiency in AC-DC conversion

High junction operating temperature capability (T_{jmax} 150 °C)

Less sensitive gate for high noise immunity



POWER DIODES

Hyperfast Power Diodes

Types in **bold red italic** represent products in development

V_{RRM} (V)	I_{FAV} (A)	V_f (typ) @ 150C (V)	@ I_F (A)	t_{rr} (typ) @ 25C (ns)	SOD59 (TO220AC)	SOD113 (2-pin SOT186A)	SOD142 (2-pin TO247)	SOT429 (3-pin TO247)	SOT78 (TO220AB)	SOT186A (TO220FP)	SOT404 (D ² PAK)
400	2 x 5	0.85	5	30						<i>BYC405X-400P</i>	
500	5	1.15	5	16	BYC5D-500	BYC5DX-500					
600	5	1.4	5	19							BYC5B-600
	5	1.55	5	13	BYC5-600P	BYC5X-600P					
	8	1.4	8	20	BYC8D-600	BYC8DX-600					
	8	1.4	8	19	BYC8-600P	BYC8X-600P					BYC8B-600P
	10	1.4	10	19							BYC10B-600
	10	1.3	10	19	BYC10-600P	BYC10X-600P					
	10	1.4	10	18	BYC10D-600	BYC10DX-600					
	2 x 5	1.4	5	19					BYC10-600CT		
	15	1.4	15	22	BYC15-600P	BYC15X-600P					
	20	1.4	20	19	BYC20-600						
	20	1.2	20	26	BYC20D-600P	BYC20DX-600P					
	20	1.2	20	25		BYC20X-600P					
	30	1.5	30	26			BYC30DW-600P				
	30	1.38	30	29	BYC30-600P	BYC30X-600P	BYC30W-600P	BYC30WT-600P			BYC30B-600P
	30	1.38	30	26			BYC30W-600PT2				
	60	1.55	60	40			BYC60W-600P				
	75	1.6	75	42			BYC75W-600P				

1200V Planar Hyperfast Power Diodes

V_{RRM} (V)	I_{FAV} (A)	V_f (typ) @ 150C (V)	@ I_F (A)	t_{rr} (typ) @ 25C (ns)	SOD59 (TO220AC)	TO247-2L
1200V	5	2.0	5	42	BYC5-1200P	
	8	2.0	8	46	BYC8-1200P	
	15	2.0	15	61	BYC15-1200P	
	30	2.1	30	70	BYC30-1200P	BYC30W-1200P
	40	2.2	40	91		BYC40W-1200P
	60	2.2	60	96		BYC60W-1200P
	75	2.2	75	113		BYC75W-1200P
	100	2.2	100	115		BYC100W-1200P

In the Spotlight

1200V Planar Hyperfast Power Diodes

Planar Passivated, Pt doping technology

Fast recovery, System efficiency improvement

Soft recovery, Reduce system EMI

Avalanche ruggedness

Reduces switching losses in associated MOSFET or IGBT



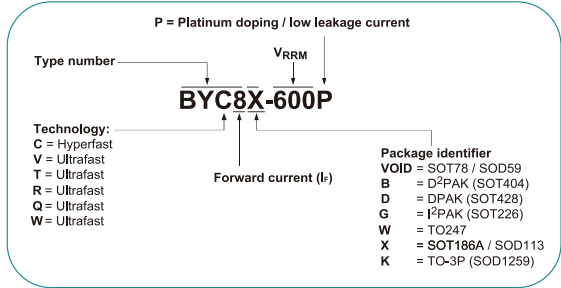
POWER DIODES

Ultrafast Power Diodes

Types in **bold red italic** represent products in development

V_{max} (V)	$I_{F(av)}$ (A)	V_F (typ) @ 150C (V)	I_F (A)	t_r (typ) @ 25C (ns)	SOD59 (TO220AC)	SOD113 (2-pin SOT186A)	SOT78 (TO220AB)	SOT186A (isolated TO220AB)	SOT223	SOT226 (I ² PAK)	SOT404 (D ² PAK)	SOT428 (DPAK)	SMA	SOD132 (SMB)	SMC	SOT1259 (TO-3P)	(TO-3PF)	SOD142 (2-pin TO247)	SOT429 (3-pin TO247)
100	8	0.8	8	20	BYW29E-100														
100	2 x 10	0.72	8	20			BYV32E-100												
150	2 x 0.75	0.5	0.5	10					BYV40E-150										
150	8	0.8	8	20	BYW29E-150														
150	2 x 10	0.72	8	20			BYV32E-150												
150	2 x 15	0.78	15	20			BYV42E-150												
200	8	0.8	8	20	BYW29E-200	BYW29EX-200						BYW29ED-200							
200	2 x 5	0.8	5	15			BYQ28E-200	BYQ28X-200											
200	2 x 5	0.8	5	15			BYQ28E-200E					BYQ28ED-200PL							
200	14	0.83	14	20	BYV79E-200														
200	2 x 8	0.84	8	20			BYQ30E-200												
200	2 x 10	0.72	8	20			BYV32E-200P		BYV32G-200	BYV32EB-200P									
200	2 x 15	0.78	15	20			BYV42E-200		BYV42G-200	BYV42EB-200						BYQ72EK-200			BYV72EW-200
							BYQ42E-200												BYQ72EW-200
							BYT28-300												
300	2 x 5	0.95	5	50															
300	2 x 10	0.81	10	9			BYV32E-300P	BYV32EX-300P			BYV32EB-300P								
300	2 x 30	0.85	30	33												BYV430K-300P			BYV430W-300P
400	9	0.9	8	50	BYV29-400														
400	2 x 10	0.87	10	50			BYV34-400												
400	2 x 15	0.95	15	35															BYV74W-400
500	9	0.9	8	50	BYV29-500	BYV29X-500					BYV29B-500								
500	2 x 5	0.95	5	50			BYT28-500	BYT28X-500											
500	14	0.9	15	50	BYT79-500														
500	2 x 10	0.87	10	50			BYV34-500												
500	2 x 15	0.95	15	50			BYV44-500												
600	1	0.88	1	45									MURS160	MURS160B					
600	3	0.88	3	36										MURS360B					
600	5	0.9	5	45											MURS60				
600	5	1.1	5	17.5	BYV25F-600	BYV25FX-600					BYV25FB-600	BYV25FD-600							
600	5	0.97	5	50		BYV25X-600				BYV25G-600		BYV25D-600							
600	8	1.07	8	60	BYR29-600	BYR29X-600													
600	8	0.8	8	65											MUR860				
600	9	0.97	8	50	BYV29-600P	BYV29X-600P				BYV29G-600P	BYV29B-600P	BYV29D-600P							
600	9	1.25	8	17.5	BYV29F-600	BYV29FX-600					BYV29FB-600	BYV29FD-600							
600	10	1.6	10	20	BYV10-600P	BYV10X-600P													
600	10	1.6 mAs	10	35		BYV10EX-600P								BYV10ED-600P					
600	15	1	15	50	BYT79-600														
600	15	0.96	15	50		BYT79X-600P					BYT79B-600P								
600	2 x 10	0.92	10	50			BYV34-600	BYV34X-600		BYV34G-600									
600	2 x 10	1.3	10	20			BYV410-600	BYV410X-600P											
600	2 x 15	1.3	10	20															
600	2 x 15	1.3	10	20												BYV415K-600P	BYV415J-600P		BYV415W-600P
600	30	0.98	30	42	BYV30-600P	BYV30X-600P					BYV30B-600P							BYV30W-600P	
600	40	0.97	40	52														BYV40W-600P	
600	2 x 30	1.25	30	53													BYV430J-600P		
600	60	1.2	60	53														BYV60W-600P	
800	8	1.07	8	60	BYR29-800														
800	8	1.2	8	40		BYR29X-800P													
1200	5	1.6	5	50								BYR5D-1200P							

Power Diode part numbering



In the Spotlight

Ultrafast power diodes

- Fast switching
- High voltage capability
- Low forward voltage drop
- Low leakage current (platinum doped series)
- Low thermal resistance
- Soft recovery characteristic



SIC SCHOTTKY DIODE

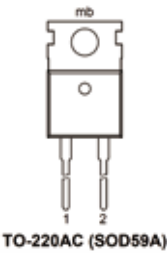
Types in **bold red** represent new products

V_{RRM} (V)	$I_{F(AV)}$ (A)	V_F (typ) @25C (V)	@ I_F (A)	Q_r (typ) @25C (nC)	SOD59 (TO220AC)	SOD113 (2-pin SOT186A)	SOD142 (2-pin TO247)	SOT429 (3-pin TO247)	SOT428 (DPAK)	SOT404 (D ² PAK)
650	4	1.5	4	7	NXPSC04650	NXPSC04650X			NXPSC04650D	NXPSC04650B
	6	1.5	6	10	NXPSC06650	NXPSC06650X			NXPSC06650D	NXPSC06650B
	8	1.5	8	13	NXPSC08650	NXPSC08650X			NXPSC08650D	NXPSC08650B
	10	1.65	10	12	NXPLQSC10650					
	10	1.5	10	15	NXPSC10650	NXPSC10650X			NXPSC10650D	NXPSC10650B
	12	1.5	12	20	NXPSC12650					NXPSC12650B
	16	1.5	16	26	NXPSC16650					NXPSC16650B
	20	1.5	20	28	NXPSC20650					NXPSC20650B
	2 x 10	1.5	10	14				NXPSC20650W		
	2 x 10	1.65	10	11				NXPLQSC20650W		
	2 x 15	1.75	15	15				NXPLQSC30650W		
1200	2	1.4	2	-	WNSC021200					
	5	1.4	5	-	WNSC051200					
	10	1.4	10	-	WNSC101200					
	10	1.4	10	24			WNSC101200W			
	2 x 5	1.6	10	12				WNSC101200CW		
	20	1.4	20	52			WNSC201200W			
	2 x 10	1.4	20	24				WNSC201200CW		

In the Spotlight

650V SiC Schottky Diode

- Highly stable switching performance
- High forward surge capability IFSM
- Extremely fast reverse recovery time
- Superior in efficiency to Silicon Diode alternatives
- Reduced losses in associated MOSFET
- Reduced EMI
- Reduced cooling requirements
- RoHS compliant



In the Spotlight

1200V SiC Schottky Diode

- Highly stable switching performance
- High forward surge capability IFSM
- Extremely fast reverse recovery time
- Superior in efficiency to Silicon Diode alternatives
- Reduced losses in associated MOSFET
- Reduced EMI
- Reduced cooling requirements
- RoHS compliant
- High junction operating temperature capability ($T_{j(max)} = 175\text{ }^{\circ}\text{C}$)



POWER SCHOTTKY DIODES

Types in **bold red** represent new products

V_{RRM} (V)	$I_{F(AV)}$ (A)	$V_F(\text{typ}) @120C$ (V)	@ I_F per diode (A)	SOD78 (TO220AB)	SOD404 (D ² PAK)	SOT186A (isolated TO220AB)	TO262
100	2 x 10	0.73	10			WNS20S100CX	
	2 x 10	0.63	10	WNS20H100C	WNS20H100CB	WNS20H100CX	
	2 x 10	0.73	10	WNS20S100C	WNS20S100CB	WNS20S100CX	
	2 x 15	0.6	15	WNS30H100C	WNS30H100CB	WNS30H100CX	
	2 x 20	0.61	20	WNS40H100C	WNS40H100CB	WNS40H100CX	
	2 x 20	0.64	20				WNS40H100CG
	2 x 20	0.61	20	WNS40100C			

CASCO DIODES

employing series die technology for the lowest possible trr

V_{RRM} (V)	$I_{F(AV)}$ (A)	$V_F(\text{typ}) @25C$ (V)	@ I_F (A)	t_{rr} (typ) @25C (ns)	SOD113 (2-pin SOT186A)
600V	8	2	8	12.5	BYC58X-600

600V - 1600V Standard Power Diodes

Types in **bold red** represent new products

Types in **bold red italic** represent products in development

V_{RRM} (V)	$I_{F(AV)}$ (A)	$V_F(\text{typ}) @150C$ (V)	@ I_F (A)	I_{FSM} @10ms (A)	SOT186A (isolated TO220AB)	TO247-2L	SOT428 (DPAK)	SOD132 (SMB)
600V	10	0.89@25C	10	-	WND10M600X			
800V	8	0.84	8	150			SK8D	
	10	1.07	10	-	WND10P08X			
1000V	3	1.15@25C	3	-				WND03M10
1600V	8	1.0	8	150	WND08P16X		WND08P16D	
	45	1	45	475		WND45P16W		
	60	1.08	60	-		WND60P16W		

POWER DIODE BRIDGE

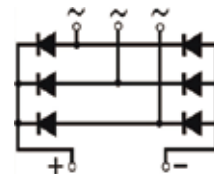
Types in **bold red italic** represent products in development

V_{RRM} (V)	$I_{F(AV)}$ (A)	$V_F(\text{typ}) @25C$ (V)	I_{FSM} @10ms (A)	GBJ	WMM01
600V	25	0.87	300		
600V	25	0.87	300	WNB2560M	
1600V	75	1.6 _{MAX}	750		WDMF75M16

In the Spotlight

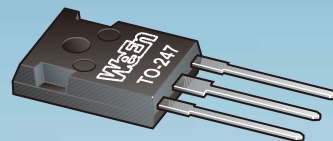
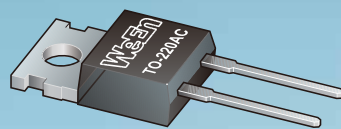
WDMF75M16

- Three phase rectifiers
- Heat transfer through aluminium oxide DBC, ceramic isolated metal baseplate
- High voltage capability
- High inrush current capability
- Planar process
- High operating temperature capability ($T_{j(max)} = 150^{\circ}C$)



Advantages of WeEn Silicon Carbide Junction Barrier Schottky

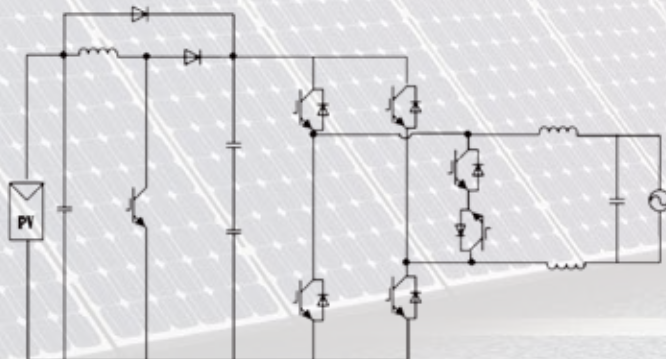
- Extremely low t_{rr}
- Low V_F
- High surge current capability
- High switching frequency
- Reduced cooling requirements
- High system efficiency



WeEn SiC JBS for Photovoltaic Inverter



WeEn
WeEn Semiconductors



NXPLQSC10650

NXPSC10650

NXPSC10650X

NXPSC20650

NXPLQSC20650W

NXPSC20650W

NXPLQSC30650W

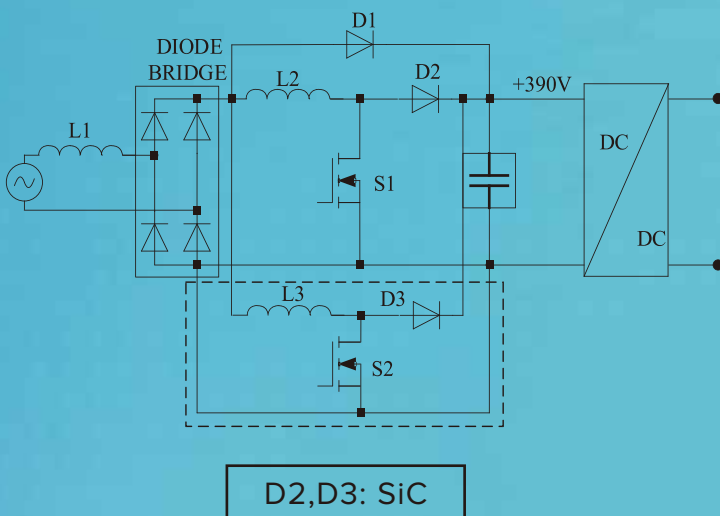
WeEn Silicon Carbide Junction Barrier Schottky (JBS) 650V and 1200V series

Voltage	Current	Package
650V	4-30A	TO220 / TO247 / DPAK / D ² PAK
1200V	2-20A	TO220 / TO247

Key features of WeEn SiC JBS

- No reverse recovery charge
- Qr temperature independent
- High thermal conductivity

WeEn SiC JBS for Server Power / Telecom Power



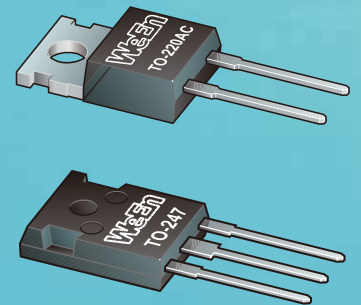
NXPSC10650

NXPSC20650

NXPSC20650W

NXPLQSC20650W

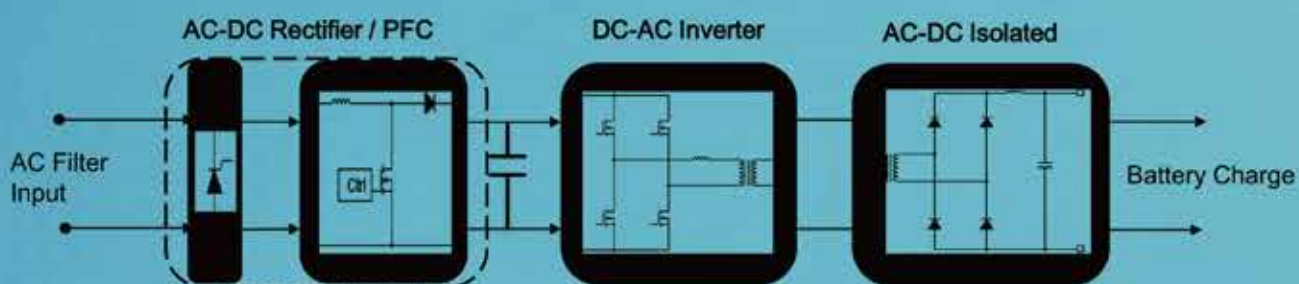
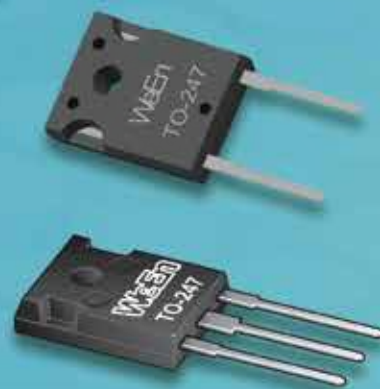
NXPLQSC30650W



WeEn Products for EV On Board Charger

Automotive Grade, AEC-Q101 qualified

- Fast Switching Silicon Diodes $T_{j(max)} 175^{\circ}C$
- High Efficiency Silicon Carbide Diodes $T_{j(max)} 175^{\circ}C$
- High Current SCRs $T_{j(max)} 150^{\circ}C$

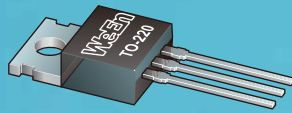


NXPSC20650W-A
BT155W-1200T-A
BT153B-1200T-A

On-board Charger

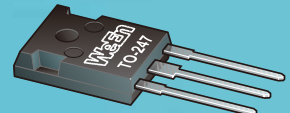


WeEn Products in Smart Home



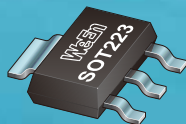
Coffee Machine:

- Planar passivated technology, high $T_{j(max)}$ 150 °C capability for better heating control
- BTA316Y-800CT used for heating element control
- TOPT16-800C0 used for heating element control with over temp. protection function embedded



Air-con

- Platinum-doping SABER™ Series Fast Recovery Diodes
- BYV415W-600P, BYV415J-600P used for PFC
- BYV30JT-600P, BYC30W-600PT2, BYC20X-600P, BYC30X-600P used for traditional PFC



Wash Machine

- Planar Passivated technology with the best false trigger capability
- BTA201W-800E used for Valve control
- BTA416Y-800C used for drum motor control



Dish Washer

- Planar passivated ACT/ACTT series with over-voltage clamp function
- ACT108W-800E used for water inlet valve control
- ACTT4S-800E used for water extraction pump control

Certifications



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Website: www.ween-semi.com

Mailbox: marcom@ween-semi.com