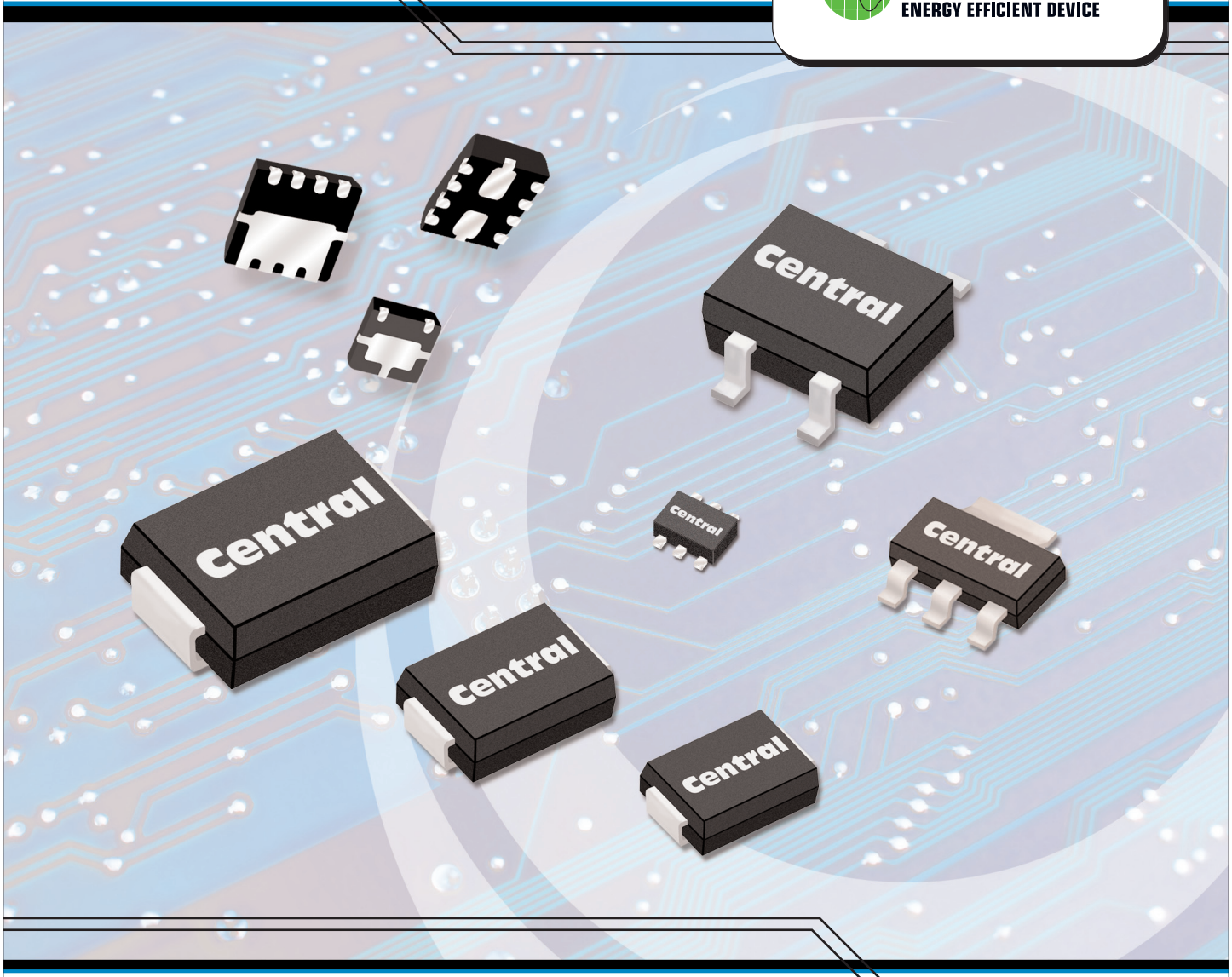
Schottky Rectifier Guide

EED
ENERGY EFFICIENT DEVICE



Central™
Semiconductor Corp.

Central
Semiconductor Corp.

Central Semiconductor Corp. manufactures a wide range of surface mount Schottky rectifiers to meet designers' most demanding requirements. These Schottky devices are ideal for today's latest portable battery powered electronics with forward voltage drops as low as 0.38Volts.

New

Schottky Rectifiers in Tiny Leadless Module (TLM) packages

CTLSH1-40M322	1 Amp, 40 Volt Schottky Rectifier in TLM322 case.
CTLSH1-40M832D	Dual, 1 Amp, 40 Volt Schottky Rectifiers in TLM832D case.
CTLSH2-40M832	2 Amp, 40 Volt Schottky Rectifier in TLM832 case.
CTLSH3-30M833	3 Amp, 30 Volt Schottky Rectifier in TLM833 case.
CTLSH5-40M833	5 Amp, 40 Volt Schottky Rectifier in TLM833 case.

New

Schottky Bridge Rectifiers in the HD DIP package

CBRHDSH1-40L	1 Amp, 40 Volt (Low V_F) Full Wave Bridge Rectifier in HD DIP case.
CBRHDSH1-100	1 Amp, 100 Volt Full Wave Bridge Rectifier in HD DIP case.
CBRHDSH2-40	2 Amp, 40 Volt Full Wave Bridge Rectifier in HD DIP case.

Under development

Schottky Bridge Rectifiers in the HD DIP package

CBRHDSH1-60	1 Amp, 60 Volt Full Wave Bridge Rectifier in HD DIP case.

Sample devices are available upon request. Please contact Central's Sales Department at 631-435-1110 or online at: www.centralsemi.com/samples.aspx

Detailed datasheets are available on Central's website: www.centralsemi.com

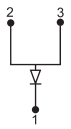
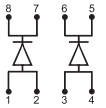
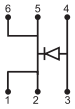
All of the Central Semiconductor Schottky rectifiers are Pb Free and RoHS compliant.

RoHS Compliant

Pb-Free Plating

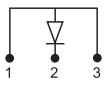
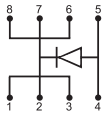
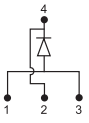
EED ENERGY EFFICIENT DEVICE

1.0 Amperes, 20 to 100 Volts

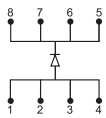
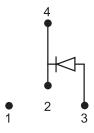
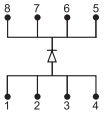
I_O (AMPS)	1.0						
@ T_A / *T_L (°C)	25	25	25	75*	25	25	75*
I_{FSM} (AMPS)	10	10	10	30	50	12	30
CASE	TLM322	TLM832D	SOT-563	SOD-123F	SOD-123F	SOT-23F	SMA
	SINGLE	DUAL ISOLATED					
V_{RRM} (VOLTS)							
20	–	–	–	**CMMSH1-20**		–	**CMSH1-20M**
40	**CTLSH1-40M322**	**CTLSH1-40M832D**	**CMLSH1-40**	**CMMSH1-40**	**CMMSH1-40L**	**CMPSH1-4**	**CMSH1-40M**
60	–	–	–	**CMMSH1-60**		–	**CMSH1-60M†**
100	–	–	–	**CMMSH1-100**		–	**CMSH1-100M†**
V_F MAX @ I_F = I_O							
20	–	–	–	0.45V	–	–	0.50V
40	0.55V	0.55V	0.55V	0.55V	0.45V	0.55V	0.50V
60	–	–	–	0.70V	–	–	0.70V
100	–	–	–	0.85V	–	–	0.85V
I_R MAX @ V_{RRM}	50µA @ 15V	50µA @ 15V	50µA @ 15V	500µA	500µA	100µA @ 30V	500µA
PINOUT							

* T_L=100°C for 60V & 100V.

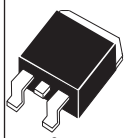
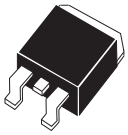
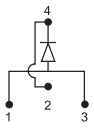
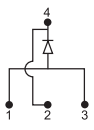
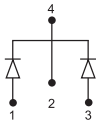
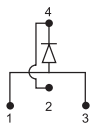
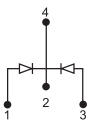
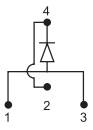
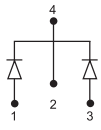
1.0 to 2.0 Amperes, 20 to 100 Volts

I_O (AMPS)	1.0			2.0				
@ T_A (°C) *T_L (°C)	25	75	25	25	75*	55	105*	25
I_{FSM} (AMPS)	30	30	10	50	50	50	50	10
CASE	SMA	SMB	SOT-89	TLM832	SMA	SMB	SMB	SOT-223
			SINGLE	SINGLE				SINGLE
V_{RRM} (VOLTS)								
20	**CMSH1-20ML**	**CMSH1-20**	**–**	**–**	**CMSH2-20M**	**CMSH2-20**	**CMSH2-20L**	**–**
40	**CMSH1-40ML**	**CMSH1-40**	**CXSH-4**	**CTLSH2-40M832**	**CMSH2-40M**	**CMSH2-40**	**CMSH2-40L**	**CZSH-4**
60	**–**	**CMSH1-60**	**–**	**–**	**CMSH2-60M**	**CMSH2-60**	**–**	**–**
100	**–**	**CMSH1-100**	**–**	**–**	**CMSH2-100M**	**CMSH2-100**	**–**	**–**
V_F MAX @ I_F = I_O								
20	0.38V	0.55V	**–**	**–**	0.55V	0.50V	0.40V	**–**
40	0.40V	0.55V	0.55V	0.50V	0.55V	0.50V	0.40V	0.60V
60	**–**	0.70V	**–**	**–**	0.70V	0.70V	**–**	**–**
100	**–**	0.85V	**–**	**–**	0.85V	0.85V	**–**	**–**
I_R MAX @ V_{RRM}	500µA	500µA	1,000µA	200µA	500µA	500µA	500µA	1,000µA
PINOUT								

3.0 to 5.0 Amperes
20 to 100 Volts

I_O (AMPS)	3.0						5.0	
@ T_A (°C) *T_L	25	75*	75*	75	75*	120*	25	75
I_{FSM} (AMPS)	25	80	80	150	100	75 50†	50	125
CASE	TLM833	SMA	SMB	SMC	SMC	DPAK	TLM833	SMC
	SINGLE					SINGLE	SINGLE	
V_{RRM} (VOLTS)								
20	–	CMSH3-20MA	CMSH3-20M	CMSH3-20	CMSH3-20L	–	–	CMSH5-20
25	–	–	–	–	–	–	–	–
30	CTLSH3-30M833	–	–	–	–	–	–	–
40	–	CMSH3-40MA	CMSH3-40M	CMSH3-40	CMSH3-40L	CSHD3-40	CTLSH5-40M833	CMSH5-40
60	–	CMSH3-60MA	CMSH3-60M	CMSH3-60	–	CSHD3-60	–	CMSH5-60
100	–	CMSH3-100MA	CMSH3-100M	CMSH3-100	–	CSHD3-100	–	CMSH5-100
V_F MAX @ I_F = I_O								
20	–	0.50V	0.55V	0.50V	0.38V	–	–	0.55V
25	–	–	–	–	–	–	–	–
30	0.45V	–	–	–	–	–	–	–
40	–	0.50V	0.55V	0.50V	0.40V	0.65V	0.52V	0.55V
60	–	0.70V	0.75V	0.70V	–	0.75V	–	0.75V
100	–	0.85V	0.85V	0.80V	–	0.85V	–	0.85V
I_R MAX @ V_{RRM}	1.0mA	500µA	500µA	500µA	500µA	30µA†	200µA	3.0mA
PINOUT								

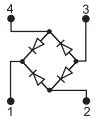
5.0 to 16 Amperes
25 to 100 Volts

I_O (AMPS)	5.0			6.0	8.0	10		16
@ T_C (°C)	75*	120**	75	120	100		120	90
I_{FSM} (AMPS)	100	80	125	75 50†	150		200	150
CASE	 DPAK	 DPAK	 SOT-223	 DPAK	 D^2PAK	 SOT-223C	 DPAK	 D^2PAK
	SINGLE	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	DUAL COMMON CATHODE	SINGLE	DUAL COMMON CATHODE
V_{RRM} (VOLTS)								
25	–	CSHD5-25L	–	–	–	–	–	–
40	CSHD5-40	–	CZSH5-40	CSHD6-40C	CSHDD8-40	CZSH10-40CN	–	CSHDD16-40C
45	–	–	–	–	–	–	CSHD10-45L	–
60	CSHD5-60	–	–	CSHD6-60C	CSHDD8-60	–	–	CSHDD16-60C
100	CSHD5-100	–	–	CSHD6-100C	CSHDD8-100	–	–	CSHDD16-100C
V_F MAX @ $I_F = I_O$								
25	–	0.47V	–	–	–	–	–	–
40	0.55V	–	0.55V	0.65V Per Leg	0.65V	0.60V Per Leg	–	0.65V Per Leg
45	–	–	–	–	–	–	0.75V	–
60	0.75V	–	–	0.70V Per Leg	0.75V	–	–	0.75V Per Leg
100	0.85V	–	–	0.75V Per Leg	0.85V	–	–	0.85V Per Leg
I_R MAX @ V_{RRM}	0.2mA	500µA	3.0mA	30µA†	100µA	3.0mA	100µA	100µA
PINOUT								

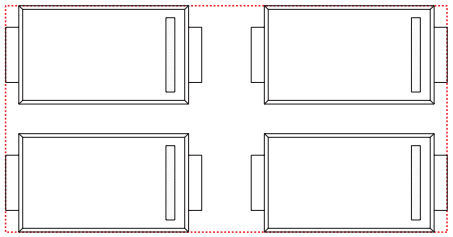
† 60V & 100V Devices

Single Phase, Full Wave

1.0 to 2.0 Amperes
40 to 100 Volts

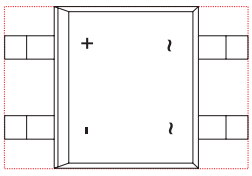
I_O (AMPS)	1.0		2.0
@ T_A (°C)	25	25	25
I_{FSM} (AMPS)	20	20	30
CASE	HD SCHOTTKY BRIDGE  HD DIP		
V_{RRM} (VOLTS)	SCHOTTKY	LOW V_F SCHOTTKY LOW V_F	SCHOTTKY
40	–	**CBRHDSH1-40L**	**CBRHDSH2-40**
90	**CBRHDSH1-90**	–	–
100	**CBRHDSH1-100**	–	–
V_F MAX @ I_F	0.75V @ 1.0A	0.44V @ 1.0A	0.5V @ 2.0A
I_R MAX @ V_{RRM}	10µA	50µA	50µA
PINOUT			

HD DIP utilizes 50% less board space compared with 4 individual SMA Schottky Rectifiers in a bridge configuration.



4 SMA packages

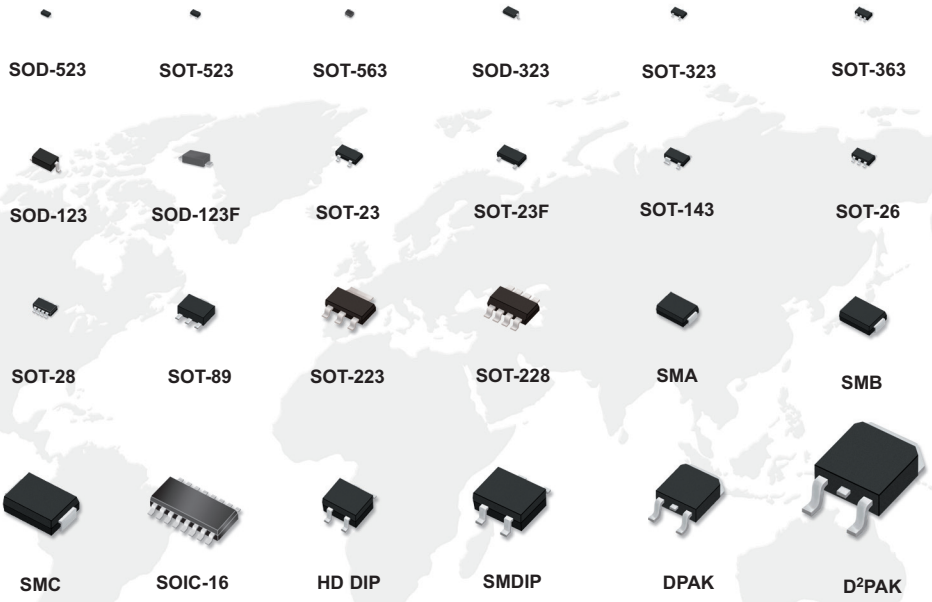
vs.



HD DIP package

Surface Mount Packages

(Actual Size)



TLM™ Tiny Leadless Module Packages

Bottom View

Manufacturer of World Class Discrete Semiconductors

145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

w w w . c e n t r a l s e m i . c o m