

CR15U-06S

**SILICON ULTRA FAST
SOFT RECOVERY RECTIFIER
15 AMP, 600 VOLT**



TO-220-2 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CR15U-06S is a 15 Amp ultra fast rectifier that has soft recovery characteristics. The CR15U-06S is well suited for fast switching applications that require a significant reduction in EMI.

MARKING: FULL PART NUMBER

FEATURES:

- Softness factor (t_b/t_a) = 1 TYP
- Ultra fast recovery time
- High forward surge capability (I_{FSM})
- Low total conduction losses
- Reduced EMI levels

APPLICATIONS:

- PFC circuits
- Power management / Charging systems
- DC-DC converters and SMPS

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
DC Blocking Voltage	V_R	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	420	V
Average Rectified Forward Current ($T_C=110^\circ\text{C}$)	I_O	15	A
Peak Forward Surge Current, $t_p=8.3\text{ms}$	I_{FSM}	200	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	2.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_J=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
I_R	$V_R=600\text{V}$			3.0	μA
I_R	$V_R=600\text{V}, T_J=125^\circ\text{C}$			100	μA
BV_R	$I_R=100\mu\text{A}$	600			V
V_F	$I_F=1.0\text{A}$		0.86		V
V_F	$I_F=1.0\text{A}, T_J=125^\circ\text{C}$		0.62		V
V_F	$I_F=5.0\text{A}$		1.13		V
V_F	$I_F=5.0\text{A}, T_J=125^\circ\text{C}$		0.86		V
V_F	$I_F=15\text{A}$		1.37	1.65	V
V_F	$I_F=15\text{A}, T_J=125^\circ\text{C}$		1.13	1.35	V
C_J	$V_R=0, f=1.0\text{MHz}$		360		pF
t_{rr}	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$			45	ns
t_{rr}	$V_R=30\text{V}, I_F=1.0\text{A}, di/dt=100\text{A}/\mu\text{s}$			35	ns
t_{rr}	$V_R=400\text{V}, I_F=15\text{A}, di/dt=200\text{A}/\mu\text{s}$		50		ns
S	$V_R=30\text{V}, I_F=1.0\text{A}, di/dt=100\text{A}/\mu\text{s}$		1.0		
I_{RRM}	$V_R=400\text{V}, I_F=15\text{A}, di/dt=200\text{A}/\mu\text{s}$		3.5		A
Q_{rr}	$V_R=400\text{V}, I_F=15\text{A}, di/dt=200\text{A}/\mu\text{s}$		85		nC

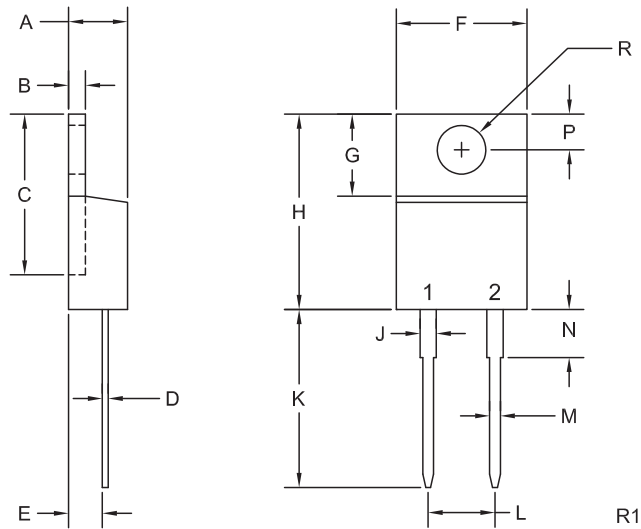
R2 (14-December 2015)

CR15U-06S

SILICON ULTRA FAST
SOFT RECOVERY RECTIFIER
15 AMP, 600 VOLT



TO-220-2 CASE - MECHANICAL OUTLINE



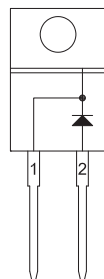
LEAD CODE:

1) Cathode

2) Anode

Tab is Common to Pin 1

MARKING: FULL PART NUMBER



SYMBOL	DIMENSIONS			
	MIN	MAX	MIN	MAX
A	0.170	0.190	4.32	4.83
B	0.045	0.055	1.14	1.40
C	0.460	0.507	11.68	12.88
D	0.013	0.024	0.33	0.61
E	0.080	0.115	2.03	2.92
F	0.380	0.420	9.65	10.67
G	0.230	0.270	5.84	6.86
H	0.570	0.615	14.48	15.62
J	0.044	0.070	1.14	1.78
K	0.500	0.580	12.70	14.73
L	0.200		5.08	
M	0.025	0.036	0.64	0.91
N	0.120	0.240	3.05	6.10
P	0.100	0.120	2.54	3.05
R (DIA)	0.143	0.156	3.63	3.96

TO-220-2 (REV: R1)

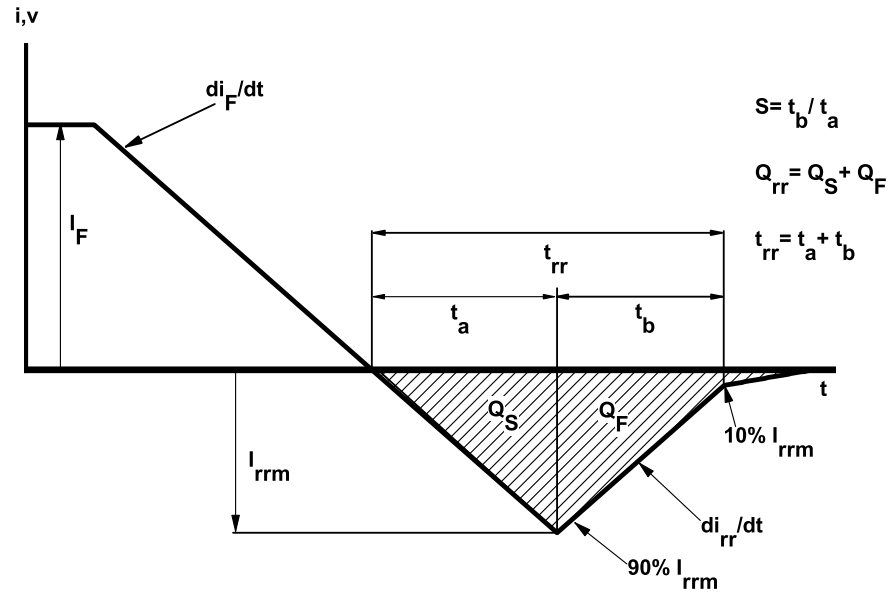
R2 (14-December 2015)

CR15U-06S

SILICON ULTRA FAST
SOFT RECOVERY RECTIFIER
15 AMP, 600 VOLT



REVERSE RECOVERY CHARACTERISTICS



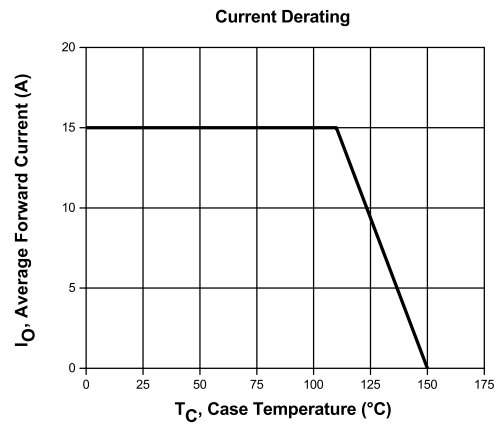
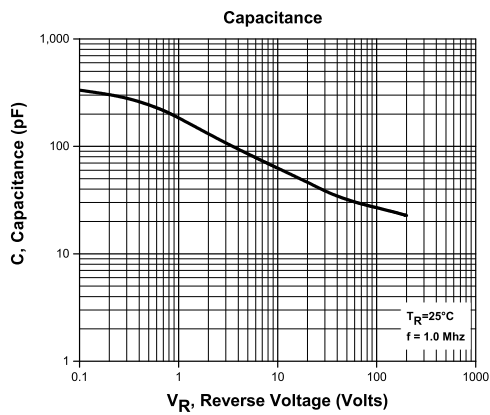
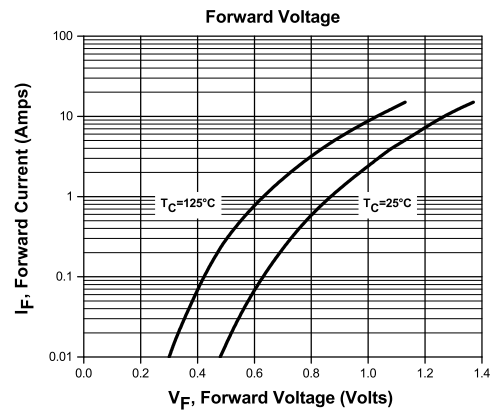
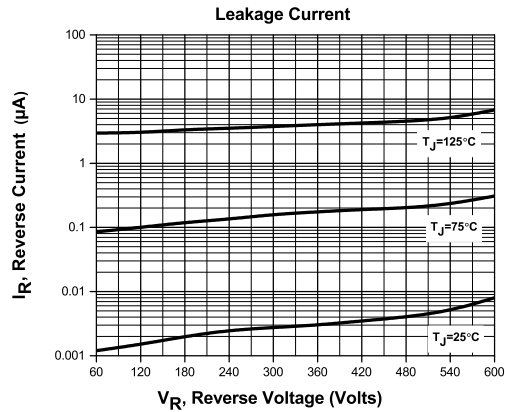
R2 (14-December 2015)

CR15U-06S

SILICON ULTRA FAST
SOFT RECOVERY RECTIFIER
15 AMP, 600 VOLT



TYPICAL ELECTRICAL CHARACTERISTICS



R2 (14-December 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

Worldwide Distributors:
www.centalsemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centalsemi.com/terms



<https://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01263
Notification Date:	9/06/23
Last Buy Date:	Stock Only
Last Shipment Date	Stock Only

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. Orders can only be accepted for products with available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor, LLC

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<https://www.centalsemi.com>

Product End of Life Notification

PDN ID:	PDN01263
Notification Date:	9/06/23
Last Buy Date:	Stock Only
Last Shipment Date	Stock Only

Summary: The following devices in the TO-220 case are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Portfolio Management. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Suggested Replacement
CDM22010-650	N/A
CDM22010-650 SL	N/A
CDM2209-900FP SL	N/A
CR15U-06S SL	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. If you would like assistance, please visit <https://my.centalsemi.com/submit-inquiry?type=ER> to submit an online inquiry.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.