

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors  
www.centrasemi.com

CS55BZ  
CS55DZ

SILICON CONTROLLED RECTIFIER  
0.8 AMPS, 200 AND 400 VOLTS

TO-92 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR CS55BZ series type are epoxy molded silicon controlled rectifiers designed for applications requiring extremely low gate sensitivity.

## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

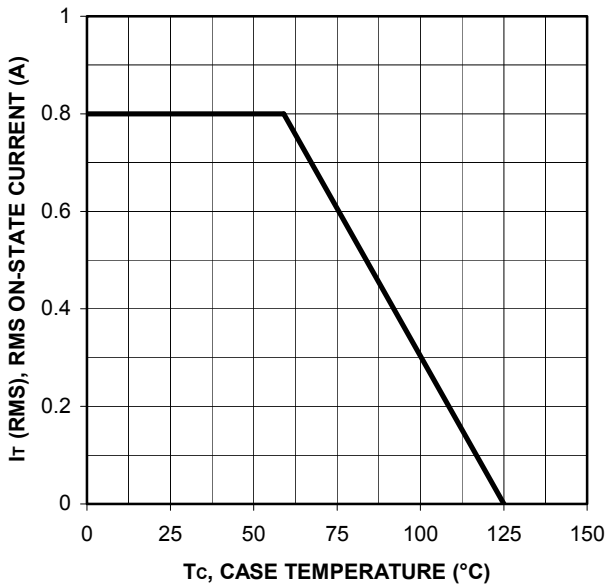
	SYMBOL	CS55BZ	CS55DZ	UNITS
Peak Repetitive Off-State Voltage	V <sub>DRM</sub> , V <sub>RRM</sub>	200	400	V
RMS On-State Current (T <sub>C</sub> =60°C)	I <sub>T(RMS)</sub>	0.8		A
Peak One Cycle Surge (t=10ms)	I <sub>TSM</sub>	10		A
I <sup>2</sup> t Value for Fusing (t=10ms)	I <sup>2</sup> t	0.24		A <sup>2</sup> s
Peak Gate Power (tp=10μs)	P <sub>GM</sub>	2.0		W
Average Gate Power Dissipation	P <sub>G(AV)</sub>	0.1		W
Peak Gate Current (tp=10μs)	I <sub>GM</sub>	1.0		A
Peak Gate Voltage (tp=10μs)	V <sub>GM</sub>	8.0		V
Storage Temperature	T <sub>stg</sub>	-40 to +125		°C
Junction Temperature	T <sub>J</sub>	-40 to +125		°C
Thermal Resistance	θ <sub>JA</sub>	200		°C/W
Thermal Resistance	θ <sub>JC</sub>	100		°C/W

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

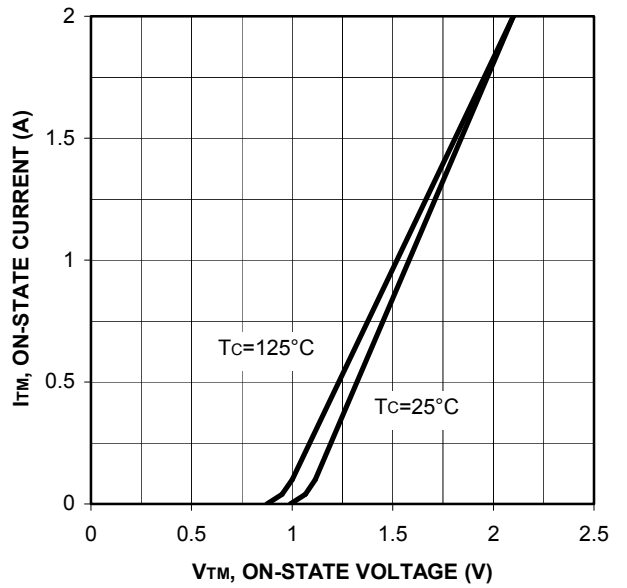
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub> , R <sub>GK</sub> =1KΩ			1.00	μA
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub> , R <sub>GK</sub> =1KΩ, T <sub>C</sub> =125°C		100		μA
I <sub>GT</sub>	V <sub>D</sub> =12V			20	μA
I <sub>H</sub>	R <sub>GK</sub> =1KΩ			5.00	mA
V <sub>GT</sub>	V <sub>D</sub> =12V			0.8	V
V <sub>TM</sub>	I <sub>TM</sub> =1.0A			1.70	V
dv/dt	V <sub>D</sub> =.67 x V <sub>DRM</sub> , R <sub>GK</sub> =1KΩ, T <sub>C</sub> =125°C	25			V/μs

(SEE REVERSE SIDE)

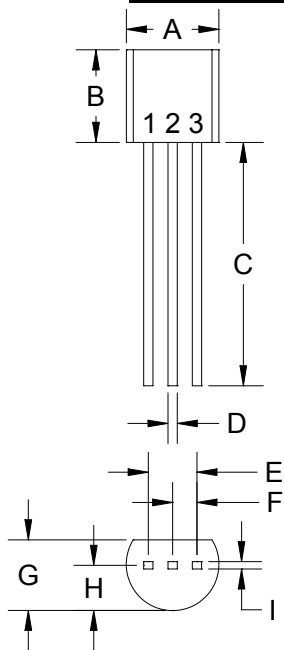
**RMS ON-STATE CURRENT vs. CASE TEMPERATURE**



**MAXIMUM ON-STATE CHARACTERISTICS**



**TO-92 PACKAGE - MECHANICAL OUTLINE**



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

Lead Code: 1) Anode  
2) Gate  
3) Cathode

R1

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## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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