



# AEM®

Innovation to **Power Your Vision**

## Ruggedized

### Semiconductor Devices Built for harsh environments



SOT-323



Engineers are increasingly experiencing failures due to high temperatures, moisture levels, corrosion, and high vibration conditions. AEM/Central Semiconductor, a leading manufacturer of high-reliability components, has developed ruggedized devices to meet these challenges by enhancing the design parameters with high-temperature die attach, gold wire bonds, and elimination of potentially corrosive materials – all while maintaining the standard industry pad layouts. The result is a robust, high-reliability component that delivers superior performance in mission-critical applications.

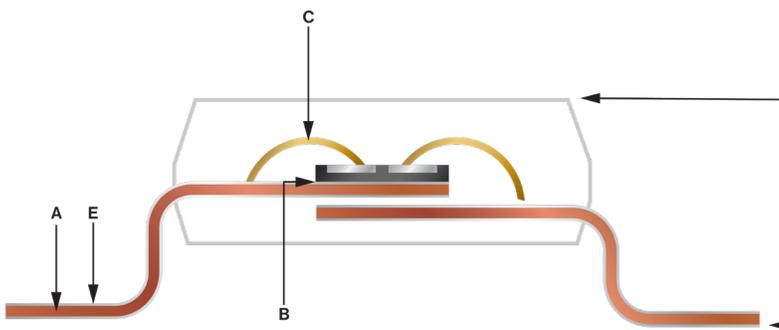
### Superior Construction

The Ruggedized family of semiconductor devices are built with the following design elements:

- A. Alloy 42 copper plated lead frame
- B. Eutectic die attach
- C. Gold (Au) wire bond
- D. Silver free package
- E. Lead/Tin (Pb/Sn) lead plating available

### Applications:

- Smart meters
- Downhole sensing
  - pressure
  - flow
  - vibration
- Avionic systems
  - communications
  - actuators
  - power distribution



### Initial offering

These devices comply with the following directives:

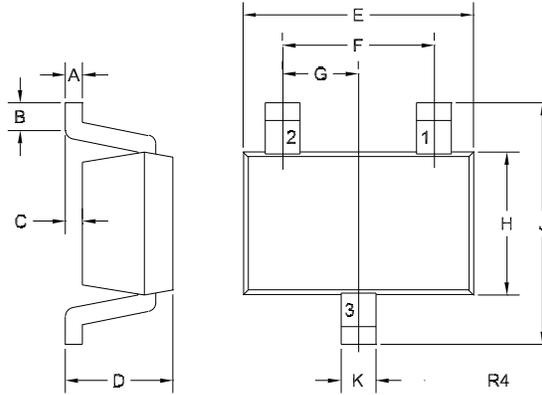
- 2011/65/EU (RoHS2)
- 2015/863/EU (RoHS3)

Part Number	Polarity	BV <sub>CBO</sub>	BV <sub>CEO</sub>	BV <sub>EBO</sub>	I <sub>CBO</sub> @ V <sub>CB</sub>		h <sub>FE</sub> @ V <sub>CE</sub> @ I <sub>C</sub>		V <sub>CE(SAT)</sub> @ I <sub>C</sub>		C <sub>ob</sub>	f <sub>T</sub>	NF		
		(V)	(V)	(V)	(nA)	(V)	(V)	(mA)	(mV)	(mA)	(pF)	(MHz)	(dB)		
		MIN	MIN	MIN	MAX		MIN	MAX			MAX	MIN	MAX		
BC847CW-RZ	NPN	50	45	6.0	15	30	420	800	5.0	2.0	250	10	3.0	100	10
BC857CW-RZ	PNP	50	45	6.0	15	30	420	800	5.0	2.0	300	10	5.0	100	10

# Ruggedized SOT-323 package

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.008	0.05	0.20
B	0.004	-	0.10	-
C	-	0.004	-	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.045	0.053	1.15	1.35
J	0.079	0.094	2.00	2.40
K	0.008	0.016	0.20	0.40

SOT-323 (REV: R4)



## LEAD CODE:

- 1) Base
- 2) Emitter
- 3) Collector

## MARKING CODE: C57

## Packaging Base

- 7" Reel = 3,000 pcs.  
13" Reel = 10,000 pcs.

## Reel Labeling Information

### Each reel is labeled with the following information:

Central Part Number, Customer Part Number, Purchase Order Number, Quantity, Lot Number, Date Code and Ship Date.

## Reel Packing Information

Reel Size	Reels per Box (Maximum)	Parts per Box (Maximum)	Box Dimensions		Shipping Weight (Max.)	
			INCH	CM	LB	KG
7"	9	27,000	9x9x5	23x23x13	3	2
	18	54,000	9x9x9	23x23x23	6	3
	40	120,000	21x9x9	53x23x23	13	6
	108	324,000	27x9x17	69x23x43	34	16
13"	6	60,000	15x4x15	38x10x38	6	3
	14	140,000	15x15x9	38x38x23	12	6
	26	220,000	15x15x18	38x38x46	22	11

## Ordering Information

- For devices taped and reeled on 7" reels, add TR suffix to part number.
- For devices taped and reeled on 13" reels, add TR13 suffix to part number.
- All SMDs are available in small quantities for prototype and manual placement applications.

Learn more about Ruggedized

[www.aeminc.com/en-us/ruggedized](http://www.aeminc.com/en-us/ruggedized)

