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# **PRODUCT CHANGE NOTICE**

## **Data Sheet Specification Change for Intersil Product ISL55015IEZ-T7**

**Refer to:  
PCN13015**

**Date: February 19, 2013**

February 19, 2013

To: Our Valued Intersil Customer

Subject: **Data Sheet Specification Change for Intersil Product ISL55015IEZ-T7**

This notice is to inform you that Intersil has changed the data sheet specification for the ISL55015IEZ-T7 product. The changes align the data sheet with the product characteristics and consist of the following:

- Corrected the ESD level for Machine Model in the *Absolute Maximum Ratings* section.
- Updated Theta JA and added Theta JC in the *Thermal Information* section.
- Output Power at 1dB Compression (P1dB) parameter limits changed in the *Electrical Specifications* table.
- Replaced the *Package Outline Drawing (POD)* to align with product change notice PCN12091.

Details regarding the changes are contained on the following pages. The updated data sheet is available on the Intersil web site at <http://www.intersil.com/content/dam/Intersil/documents/fn62/fn6284.pdf>.

There will be no change in the external marking of the packaged parts.

Intersil will take all necessary actions to conform to agreed upon customer requirements and to ensure the continued high quality and reliability of Intersil products being supplied. Customers may expect to receive product as outlined in the revised data sheet beginning ninety days from the date of this notice or earlier with approval.

If you have concerns with this notice, Intersil must hear from you promptly. Please contact the nearest Intersil Sales Office or call the Intersil Corporate line at 1-888-468-3774, in the United States, or 1-321-724-7143 outside of the United States.

Regards,



Jon Brewster  
Intersil Corporation

PCN13015

CC: J. Touvell J. Bailey P. Lee

# PCN13015 – New Data Sheet

## Absolute Maximum Ratings (T<sub>A</sub> = +25 °C)

Supply Voltage from VSP to GND .....	6V
Input Voltage .....	V <sub>S</sub> + 0.3V to GND -0.3V
Ambient Operating Temperature .....	-40 °C to +85 °C
Storage Temperature .....	-65 °C to +125 °C
Operating Junction Temperature .....	+135 °C
ESD Rating	
Human Body Model (Per MIL-STD-883 Method 3015.7) .....	6000V
Machine Model (Per EIAJ ED-4701 Method C-111) .....	250V

## Thermal Information

Thermal Resistance (Typical)	θ <sub>JA</sub> (°C/W)	θ <sub>JC</sub> (°C/W)
6 Ld SC-70 (Notes 4, 5) .....	255	195
Pb-Free Reflow Profile .....	see link below <a href="http://www.intersil.com/pbfree/Pb-FreeReflow.asp">http://www.intersil.com/pbfree/Pb-FreeReflow.asp</a>	

CAUTION: Do not operate at or near the maximum ratings listed for extended periods of time. Exposure to such conditions may adversely impact product reliability and result in failures not covered by warranty.

### NOTES:

4. θ<sub>JA</sub> is measured with the component mounted on a high effective thermal conductivity test board in free air. See Tech Brief [TB379](#) for details.
5. For θ<sub>JC</sub>, the "case temp" location is taken at the package top center.

## Electrical Specifications V<sub>SP</sub> = +5V, Z<sub>RSC</sub> = Z<sub>LOAD</sub> = 50Ω, T<sub>A</sub> = +25 °C, 24Ω V<sub>SP</sub> to OUT, unless otherwise specified.

PARAMETER	DESCRIPTION	CONDITIONS	MIN (Note 6)	TYP	MAX (Note 6)	UNIT
V <sub>SP</sub>	Supply Voltage	To operate below 5V, the 24Ω resistor to supply should be reduced	3.0		5.5	V
G <sub>t</sub>	Small Signal Gain	1.0GHz	12.3	13.5	14.8	dB
		1.5GHz	11.7	13.3	14.2	dB
		2.0GHz	11	12.4	13.5	dB
P <sub>1dB</sub>	Output Power at 1dB Compression	1.0GHz	16.4	18.1	21.6	dBm
		2.0GHz	15.3	19.4	21.0	dBm
OIP <sub>3</sub>	Output Third Order Intercept Point	1.0GHz		31.3		dBm
		2.0GHz		28.4		dBm
OIP <sub>2</sub>	Output Second Order Intercept Point	Input tones at 1.0GHz and 1.1GHz, at Input Power = -15dBm, Output tone 2.1GHz		47		dBm
BW	3dB Bandwidth	3dB below Gain @ 500MHz		2.9		GHz
IRL	Input Return Loss	1.0GHz Z <sub>RSC</sub> = 75Ω, Z <sub>LOAD</sub> = 50Ω		20.2		dB
ORL	Output Return Loss	1.0GHz Z <sub>RSC</sub> = 75Ω, Z <sub>LOAD</sub> = 50Ω		21.4		dB
RISOL	Reverse Isolation	2.0GHz		18.9		dB
NF	Noise Figure	2.0GHz		4.8		dB
ID	Device Operating Current		54	62.5	69	mA

### NOTE:

6. Parameters with MIN and/or MAX limits are 100% tested at +25 °C, unless otherwise specified. Temperature limits established by characterization and are not production tested.

Note: Changed items are shaded in yellow

# PCN13015 – Current Data Sheet

## Absolute Maximum Ratings (T<sub>A</sub> = +25°C)

Supply Voltage from VSP to GND ..... 6V  
 Input Voltage ..... V<sub>S</sub>+ +0.3V to GND -0.3V  
 Ambient Operating Temperature ..... -40°C to +85°C  
 Storage Temperature ..... -65°C to +125°C  
 Operating Junction Temperature ..... +135°C  
 ESD Rating  
 Human Body Model (Per MIL-STD-883 Method 3015.7) ... 6000V  
 Machine Model (Per EIAJ ED-4701 Method C-111) ..... 3000V

## Thermal Information

Thermal Resistance (Typical) ..... θ<sub>JA</sub> (°C/W)  
 6 Ld SC-70 ..... 200  
 Pb-free reflow profile ..... see link below  
<http://www.intersil.com/pbfree/Pb-FreeReflow.asp>

**CAUTION:** Do not operate at or near the maximum ratings listed for extended periods of time. Exposure to such conditions may adversely impact product reliability and result in failures not covered by warranty.

## Electrical Specifications V<sub>SP</sub> = +5V, Z<sub>RSC</sub> = Z<sub>LOAD</sub> = 50Ω, T<sub>A</sub> = +25°C, 24Ω V<sub>SP</sub> to OUT, unless otherwise specified.

PARAMETER	DESCRIPTION	CONDITIONS	MIN (Note 1)	TYP	MAX (Note 1)	UNIT
Vsp	Supply Voltage	To operate below 5V, the 24Ω resistor to supply should be reduced	3.0		5.5	V
Gt	Small Signal Gain	1.0GHz	12.3	13.5	14.8	dB
		1.5GHz	11.7	13.3	14.2	dB
		2.0GHz	11	12.4	13.5	dB
P1dB	Output Power at 1dB Compression	1.0GHz	18.3	18.1	19.8	dBm
		2.0GHz	15.2	17.4	19.2	dBm
OIP3	Output Third Order Intercept Point	1.0GHz		31.3		dBm
		2.0GHz		28.4		dBm
OIP2	Output Second Order Intercept Point	Input tones at 1.0GHz and 1.1GHz, at Input Power = -15dBm, Output tone 2.1GHz		47		dBm
BW	3dB Bandwidth	3dB below Gain @ 500MHz		2.9		GHz
IRL	Input Return Loss	1.0GHz Z <sub>RSC</sub> = 75Ω, Z <sub>LOAD</sub> = 50Ω		20.2		dB
ORL	Output Return Loss	1.0GHz Z <sub>RSC</sub> = 75Ω, Z <sub>LOAD</sub> = 50Ω		21.4		dB
RISOL	Reverse Isolation	2.0GHz		18.9		dB
NF	Noise Figure	2.0GHz		4.8		dB
ID	Device Operating Current		54	62.5	69	mA

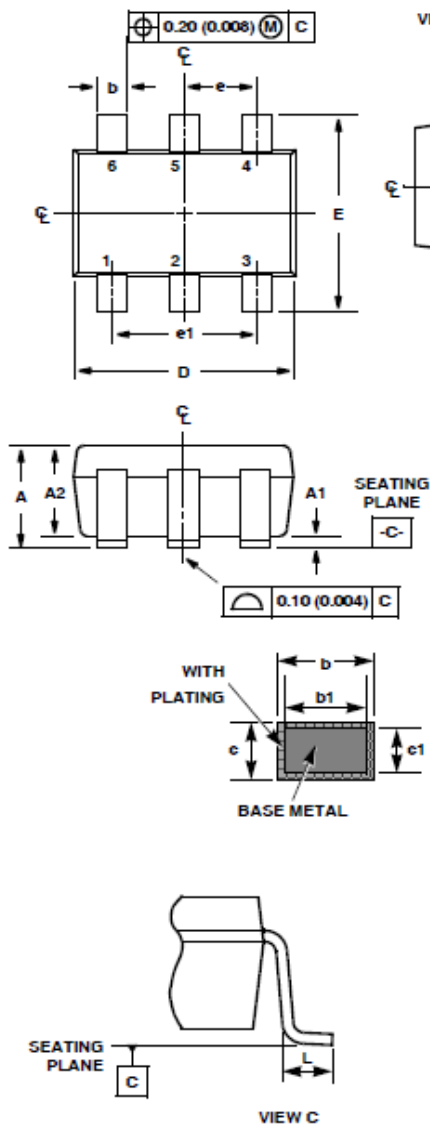
### NOTE:

1. Parts are 100% tested at +25°C. Over-temperature limits established by characterization and are not production tested.

**Note:** Changed items are shaded in yellow

# PCN13015 – New POD

## Small Outline Transistor Plastic Packages (SC70-6)



### P6.049B

#### 6 LEAD SMALL OUTLINE TRANSISTOR PLASTIC PACKAGE

SYMBOL	MILLIMETERS		NOTES
	MIN	MAX	
A	0.80	1.00	-
A1	0.000	0.09	-
A2	0.80	0.91	-
b	0.15	0.30	-
b1	0.15	0.25	-
c	0.08	0.25	6
e1	0.10	0.15	6
D	1.85	2.25	3
E	2.30 BSC		-
E1	1.15	1.35	3
e	0.65 Ref		-
e1	1.30 Ref		-
L	0.21	0.44	4
N	6		5

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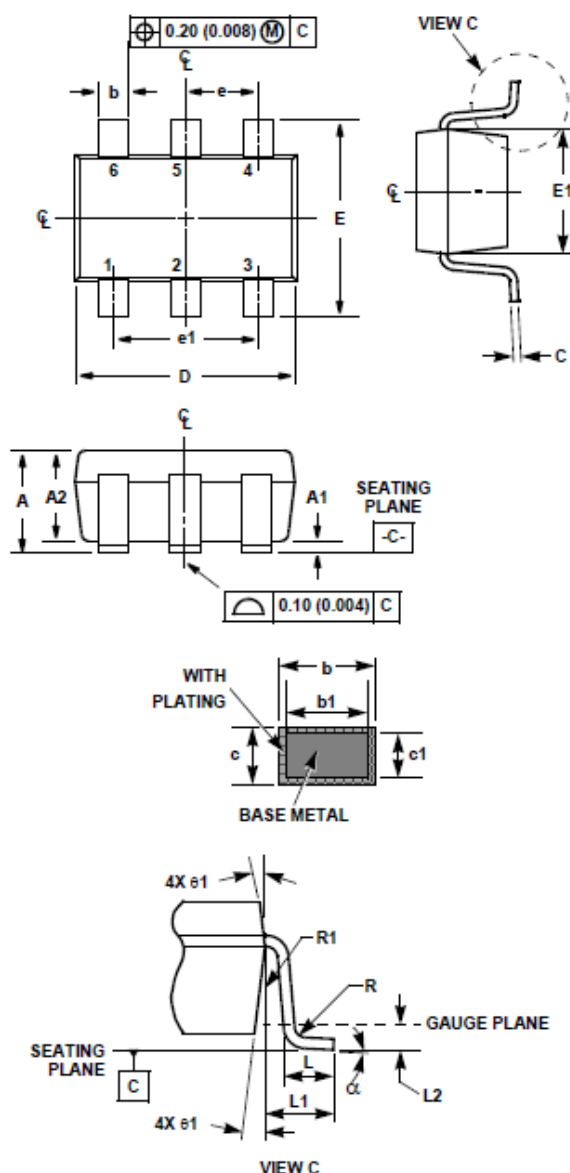
#### NOTES:

1. Dimensioning and tolerance per ASME Y14.5M-1994.
2. Package conforms to EIAJ SC70 and JEDEC MO203AB.
3. Dimensions D and E1 are exclusive of mold flash, protrusions, or gate burrs.
4. Footlength L measured at reference to gauge plane.
5. "N" is the number of terminal positions.
6. These Dimensions apply to the flat section of the lead between 0.08mm and 0.15mm from the lead tip.

Note: Changed items are shaded in yellow

# PCN13015 – Current POD

## Small Outline Transistor Plastic Packages (SC70-6)



### P6.049A

#### 6 LEAD SMALL OUTLINE TRANSISTOR PLASTIC PACKAGE

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.031	0.039	0.80	1.00	-
A1	0.001	0.004	0.025	0.10	-
A2	0.034	0.036	0.85	0.90	-
b	0.006	0.012	0.15	0.30	-
b1	0.006	0.010	0.15	0.25	-
c	0.004	0.008	0.10	0.20	6
c1	0.004	0.006	0.10	0.15	6
D	0.073	0.085	1.85	2.15	3
E	0.084 BSC		2.1 BSC		-
E1	0.045	0.053	1.15	1.35	3
e	0.0256 Ref		0.65 Ref		-
e1	0.0512 Ref		1.30 Ref		-
L	0.010	0.018	0.26	0.46	4
L1	0.016 Ref.		0.400 Ref.		-
L2	0.008 BSC		0.15 BSC		-
N	6		6		5
R	0.004	-	0.10	-	-
$\alpha$	$0^\circ$	$8^\circ$	$0^\circ$	$8^\circ$	-

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#### NOTES:

1. Dimensioning and tolerance per ASME Y14.5M-1994.
2. Package conforms to EIAJ SC70 and JEDEC MO203AB.
3. Dimensions D and E1 are exclusive of mold flash, protrusions, or gate burrs.
4. Footlength L measured at reference to gauge plane.
5. "N" is the number of terminal positions.
6. These Dimensions apply to the flat section of the lead between 0.08mm and 0.15mm from the lead tip.
7. Controlling dimension: MILLIMETER. Converted inch dimensions are for reference only.

Note: Changed items are shaded in yellow