Product Advisory (PA)

Subject: Product Advisory – ISL70244* / 5962-1324801 & ISL70444* / 5962-1321401/402 RH Operational Amplifiers
Publication Date: 9/14/2018

Renesas has been made aware of the fact that some customers have been using the ISL70244SEH, ISL70444SEH, ISL70444ASEH or the ISL71444M (hereby collectively referred to as ISL70x44*SEH) under operating conditions that leave the output(s) continuously saturated. This operating condition is not covered by the specifications and conditions in the DLA (Defense Logistics Agency) SMD (Standard Microcircuit Drawing) or the datasheet.

The ISL70x44*SEH is a high slew rate op amp that greatly increases internal bias currents when the output cannot follow where the inputs are dictating it should go. This happens under three conditions.

1. The amplifier is slewing. This is fine, and is operating as the amplifier was designed.
2. The amplifier output is driven to the point the output transistors are in saturation. This is fine, as long as the saturation is a short transient event.
3. The amplifier output is driven into saturation continuously.

The third condition occurs when the amplifier is used as a comparator (open loop), or when any unused amplifier is connected as a buffer with the input tied to either supply rail. In those cases the continuously saturated outputs cause the ISL70x44*SEH to consume higher current than what is indicated in the SMD or datasheet. This condition was not considered when the SMD was generated which only reflects product in normal non-saturated operating conditions.

The increase in supply current raises a reliability concern only when the junction temperatures are allowed to exceed 150°C. Since the supply current under these conditions can be much larger than normal operating conditions, extra care must be taken to ensure the junction temperature of the device does not exceed 150°C.

Renesas has performed a Life Test on the ISL70444*SEH with all 4 amplifiers configured as buffers with their outputs railed high (worst case power dissipation condition – excluding comparator applications). Pre and post ATE data show zero failures for the 48 units (across 3 wafer lots) tested which had junction temperatures in excess of 150°C during the life test.

For more details, please refer to AN1920 (Applications Note AN1920) or contact your local sales representative.

For additional information regarding this notice, please contact your regional change coordinator (below)			
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Products affected:

Manufacturer Marketing Part Number		
ISL70244SEHF/PROTO	ISL70444SEHF/PROTO	ISL71444MVZ
ISL70244SEHVF	ISL70444SEHVF	ISL71444MVZ-T
ISL70244SEHVX	ISL70444SEHVFS2745	ISL71444MVZ-T7A
ISL70244SEHX/SAMPLE	ISL70444SEHVX	
	ISL70444SEHX/SAMPLE	
	ISL70444ASEHVF	
	ISL70444ASEHVX	

DLA SMD Part Number		
5962F1324801VXC	5962F1321401VXC	5962F1321402VXC
5962F1324801V9A	5962F1321401V9A	5962F1321402V9A