

## ***Differences between the TPS54x40, TPS54x60 and the TPS54x40A, TPS54x60A***

*DC Solutions – CIADC*

This document highlights the improvements made to the TPS54040, TPS54060, TPS54140, and TPS54160 in their A versions. The A version has an enhanced HBM ESD rating and a tighter enable threshold voltage. The tighter enable threshold in the A versions is also valid through the entire temperature range. This allows for a more predictable enable startup voltage across all operating conditions.

The parameters are detailed in [Table 1](#) and [Table 2](#). Other than these improvements, both versions have identical functionality. Please see the datasheets for further information on these ICs.

**Table 1. Improved HBM ESD Rating**

Parameter	TPS54040, TPS54060, TPS54140, TPS54160	TPS54040A, TPS54060A, TPS54140A, TPS54160A	Unit
Electrostatic Discharge (HBM) QSS 009-105 (JESD22-A114A)	1	2	kV

**Table 2. Improved Enable Threshold Voltage**

Parameter	Part Number	Test Conditions	Min	Typ	Max	Unit
Enable threshold voltage	TPS54040, TPS54060, TPS54140, TPS54160	25°C	0.9	1.25	1.55	V
Enable threshold voltage	TPS54040A, TPS54060A, TPS54140A, TPS54160A	-40°C to 150°C	1.11	1.25	1.36	V

### References

1. TPS54040 Datasheet, *0.5-A, 42V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVS918](#))
2. TPS54040A Datasheet, *0.5-A, 42V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVSB58](#))
3. TPS54060 Datasheet, *0.5-A, 60V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVS919](#))
4. TPS54060A Datasheet, *0.5-A, 60V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVSB57](#))
5. TPS54140 Datasheet, *1.5-A, 42V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVS889](#))
6. TPS54140A Datasheet, *1.5-A, 42V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVSB55](#))
7. TPS54160 Datasheet, *1.5-A, 60V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVS795](#))
8. TPS54160A Datasheet, *1.5-A, 60V Step Down SWIFT DC/DC Converter with Eco-Mode* ([SLVSB56](#))

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