

Taiwan Semiconductor Offers New Source for Critical Automotive-Grade Low Dropout Linear Regulators

Highly integrated AEC-Q100 qualified LDOs require minimal external parts count; offered in four configurations in heat-spreading SOP-8EP and TSSOP-14EP packages

Brea, CA.— October 10, 2022 — [Taiwan Semiconductor](#), a global supplier of discrete power electronics devices, LED drivers, analog ICs and ESD protection devices, announces the availability of the [TQL8xx Family](#) of automotive-grade, low dropout (LDO) regulators. These high-reliability, AEC-Q101 qualified LDOs offer manufacturers a reliable alternative source for the critically important linear regulators utilized in numerous battery-driven automotive functions, including dashboard, cluster, climate control, fuel pump and advanced driver-assistance systems (ADAS). They are also well suited for secondary supply applications where a regulated output is essential during very low-cranking voltage conditions.



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Designed for stability in automotive battery-connect applications, TQL8xx LDOs maintain 2% accuracy over a wide range of input voltage and full operating temperature range of -40 to +125C. They are offered in models with fixed outputs of 3.3V or 5.V and feature typical dropout voltages of 70-80 mV @ IO=100 mA.

The TQL8xx Family's four package configurations offer a choice of functions:

1. SOP-8EP package: Ignition enable pin (only)
2. SOP-8EP-package: Enable, reset and watchdog output; and reset threshold adjustment
3. TSSOP-14EP package: Enable, reset and watchdog output; and reset threshold adjustment
4. TSSOP-14EP package: Enable, watchdog monitor input; watchdog output, reset threshold adjustment; and program timing adjustment

"These reliable, in-house-manufactured AEC-qualified LDO devices provide a viable alternate source for high-demand devices used in a wide range of automotive battery circuit applications," said Vice President, TSC Products, Sam Wang. "They also provide a high-performance option in industrial and high-reliability applications."

Design resources include comprehensive datasheets and spice models for each component in the series.

About Taiwan Semiconductor (TSC).

Recognized for more than 40 years for its core competence in discrete power rectifiers, Taiwan Semiconductor's expanded product portfolio provides a complete solution from one source: including trench Schottky's, MOSFETs, power transistors, LED driver ICs, analog ICs and ESD protection devices. A global enterprise with 2,000 over employees, TSC's production facilities in China and Taiwan are fully compliant with current automotive and environmental standards such as IATF16949, ISO9001 and ISO14001. Taiwan Semiconductor products are used in a vast array of applications in the electronics industry including automotive, computer, consumer, industrial, telecom and photovoltaic. Through strategic expansion of innovative manufacturing capabilities and its focus on pioneering efficient semiconductor solutions, TSC is the right choice for a successful and lasting business relationship.

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