

Toshiba Compact LDO regulators

Lineup of high-performance LDO-regulators from 150mA to 1500mA

Toshiba offers a wide variety of high-performance CMOS-based LDO regulators (identified by part numbers starting with TCR) in a variety of small packages with mixed feature sets focusing on noise, current consumption, and drop-out voltage.

• Multifunctional, high-quality LDO regulators

Modern applications require high-quality voltage regulation, power-saving, and safe operation. Therefore, a higher-performance power supply is essential. To meet these requirements, Toshiba's LDO regulator offers ultra-low drop-out, ultra-low current dissipation, high power supply rejection ratio (PSRR), ultra-high speed load transient response, and low inrush current. Toshiba's LDO regulators are an inexpensive option and offer high-performance even when compared to other switching regulators.

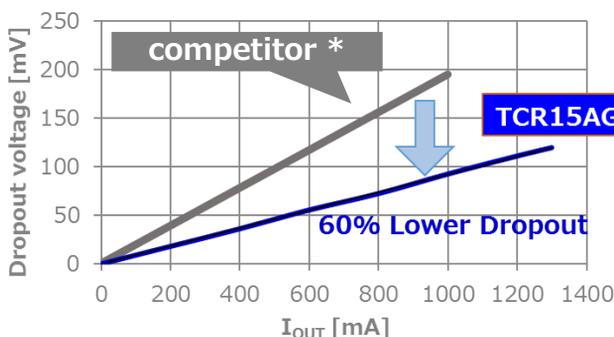
• Wide range of output voltages and currents for various applications

Output voltages are fixed and adjustable, providing a wide range of products with voltages from 0.55V to 5.0V. Output current ranges from a minimum of 150 mA to a maximum of 1500 mA. These devices are packaged in ultra-compact, high-thermal-dissipation WCSP types suitable for high-density mounting, along with industry-standard, easy to handle general-purpose lead types.

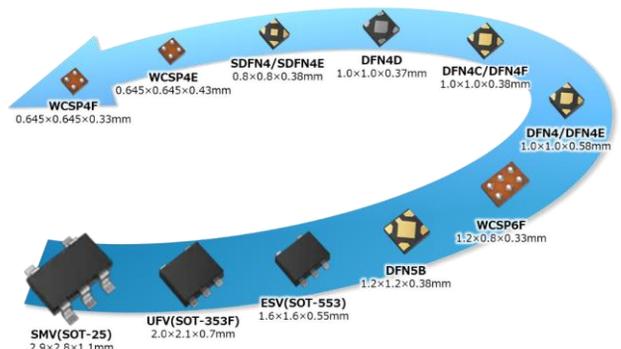
• Delivery of high-quality, stable products at plants in Japan and Thailand

Toshiba's LDO regulators are manufactured with high quality and efficiency at production facilities in Japan and Thailand, ensuring quick, stable and reliable supply for any design.

These regulators are well-suited for a wide range of applications, including noise-sensitive cameras, RF power supplies, MCU (CPU) power rails, and mobile devices that demand stringent power-saving performance. We invite you to explore their capabilities in your next design.



*Compared to same kind products based on our survey as of 2021.



Characteristics / Package		VOUT	SOT-25 2.9 x 2.8mm t: 1.1mm 	SOT-553 1.6 x 1.6mm t: 0.55mm 	DFN5B 1.2 x 1.2mm t: 0.38mm 	WCSP6F 1.2 x 0.8mm t: 0.33mm 	DFN4 DFN4E 1.0 x 1.0mm t: 0.58mm 	DFN4C DFN4F 1.0 x 1.0mm t: 0.38mm 	DFN4D 1.0 x 1.0mm t: 0.37mm 	SDFN4 SDFN4E 0.8 x 0.8mm t: 0.38mm 	WCSP4E 0.645 x 0.645mm t: 0.43mm 	WCSP4F 0.645 x 0.645mm t: 0.33mm 
150mA	High voltage ($\leq 36V$) Low Iq	1.8V to 5.0V	TCR1HF series									
200mA	Low Iq	0.8V to 3.6V	TCR2LF series	TCR2LE series						TCR2LN series		
	Low noise High speed transient	1.0V to 5.0V	TCR2EF series	TCR2EE series						TCR2EN series		
300mA	Low Iq	0.8V to 5.0V							TCR3LM series			
	Ultra-Low Iq Bypass mode	0.8V to 5.0V	TCR3UF series				TCR3UM series					TCR3UG series
	Low dropout Wide range input voltage	0.8V to 5.0V							TCR3EM series			
	Low dropout High-speed transient	1.0V to 4.5V	TCR3DF series						TCR3DMxxA series		TCR3DG series	
	Ultra-low noise High-ripple rejection	0.9V to 4.5V						TCR3RM series				
420mA	Low dropout High-speed transient	1.0V to 4.5V									TCR4DG series	
500mA	Bias Rail Type (Nch) Ultra-low dropout High-ripple rejection	0.8V to 3.6V			TCR5BM series							
	Ultra-low noise High-ripple rejection	0.9V to 5.0V										TCR5RG series
800mA	Bias-rail Type (Nch) Ultra-low dropout High-ripple rejection	0.8V to 3.6V			TCR8BM series							
1300mA	Bias-rail Type (Nch) Ultra-low dropout High-speed transient High-ripple rejection	Adjustable 0.55V to 3.6V				TCR13AGADJ						
1500mA	Bias-rail Type (Nch) Ultra-low dropout High-speed transient High-ripple rejection	Adjustable 0.65V to 3.6V Fixed 0.6V to 3.6V				TCR15AG series						

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