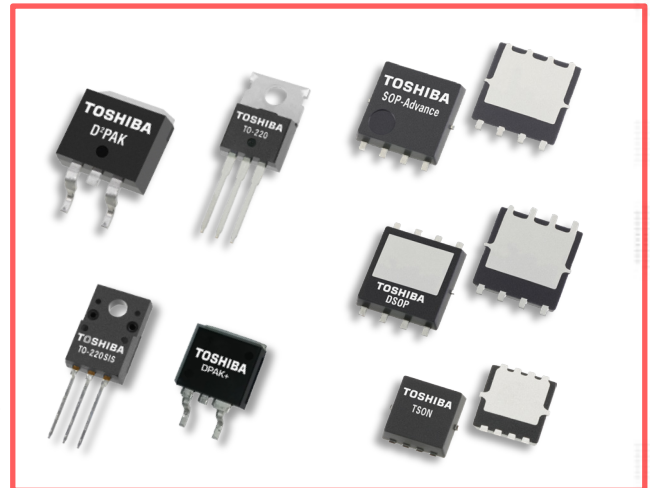


> U-MOS

Highest Efficiency at Light Loads

Toshiba's U-MOS VIII-H and IX series of high-efficiency, low-voltage MOSFETs are designed specifically for use in the secondary side of AC-DC power supplies for adapters, servers and more. They are also suitable for DC-DC power supplies for communication equipment, servers and data centers. U-MOS IX can also be used for motor drives, UPS and machine tools. This technology is rated for use in higher temperature applications – up to 175°C.



> APPLICATIONS

- Power Supplies
- Industry Automation
- Servers
- Adapters
- UPS
- Machine Tools
- Battery Packs
- Welding

> FEATURES

Latest generation (VIII and IX) trench MOS processes

Improved energy efficiency categories

Dual-side cooling

Highest performance in on-resistance ($R_{DS(ON)}$) per die area ($R_{on} \cdot A$)

Wide range of V_{DSS} (30V-250V) and $R_{DS(ON)}$ values (down to 0.8mΩ)

> ADVANTAGES

Suitable for use in various power applications

Significantly better trade-offs between $R_{DS(ON)}$ and input capacitance (C_{iss})

High avalanche ruggedness

Reduced electromagnetic radiation

Highest efficiency at light loads

Reduces thermal resistance by approx. 50%: resulting in higher load capability and reliability

Suited to applications requiring higher efficiency and smaller sizes

Meets the requirements of various applications

> BENEFITS

Cost Benefits

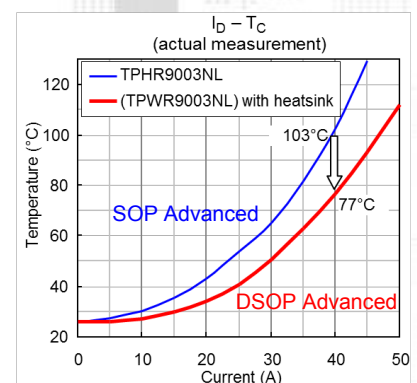
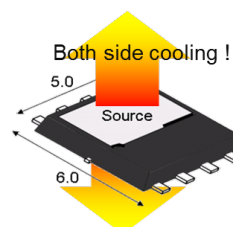
- Lower system costs due to fast switching, smaller form factors
- Increased longevity (cooler systems) reduces potential operation failures
- Flexible system costs due to variable topologies

Performance Benefits

- Improved end product quality
- Improved end product reliability

> DUAL SIDE COOLING








Using the new DSOP dual-side cooling package shows the same footprint as the SOP-Adv. Due to the strongly reduced thermal resistance, the maximum load can be increased considerably. Alternatively the MOSFET temperature can be reduced to increase long term reliability.



> HIGHEST EFFICIENCY AT LIGHT LOADS

The U-MOS VIII-H and U-MOS IX series provide higher efficiency at light loads while matching the efficiency of competing devices at heavy loads.

> U-MOS VIII & U-MOS IX – PRODUCT LINE-UP

V_{DSS} (V)	R_{DSON} In mΩ	TO-220SIS	TO-220	D2-PAK (TO-263)	SOP Advance 5x6mm	DSOP Advance 5x6mm	NEW TSON Advance 3x3mm	NEW DPAK+
								
30	10-20				TPH11003NL		TPN11003NL	
	5-10				TPH8R903NL TPH6R003NL		TPN8R903NL TPN6R003NL TPN6R303NC TPN5R203PL**	
	3-5				TPH4R003NL TPH3R203NL		TPN4R203NC TPN4R303NL	
	1-3				TPH3R003PL** TPH2R903PL** TPH2R003PL** TPH1R403NL		TPN2R203NC TPN2R503NC TPN2R703NL TPN2R903PL**	
	<1				TPHR9003NL TPHR9203PL** TPHR6503PL**	TPWR8503NL TPWR6003PL**	TPN1R603PL**	
40	10-20							TK15S04N1L
	5-10				TPH7R204PL** TPH6R004PL**		TPN7R504PL**	
	3-5	TK3R1A04PL**	TK3R1E04PL**		TPH3R704PL**		TPN3R704PL**	TK65S04N1L
	<3			TK1R4F04PB**	TPH2R104PL** TPH1R204PL**		TPN2R304PL**	TK100S04N1L TK1R4S04PB**
	<1			TK200F04N1* TKR74F04PB* **	TPHR8504PL**	TPWR8004PL**		
60	20-30						TPN22006NH	
	10-20	TK30A06N1 TK40A06N1	TK30E06N1 TK40E06N1		TPH14006NH TPH11006NL		TPN14006NH TPN11006NL	TK25S06N1L TK40S06N1L
	5-10	TK58A06N1 TK8R2A06PL**	TK58E06N1 TK8R2E06PL**		TPH9R506PL** TPH7R506NH TPH6R306PL** TPH5R906NH		TPN7R506NH	
	3-5	TK4R3A06PL**	TK4R3E06PL**		TPH3R506PL**			TK90S06N1L
	1-3	TK100A06N1	TK100E06N1		TPH2R306NH TPH2R306PL** TPH1R306PL**	TPW1R306PL**		
75	1-3				TPH2R608NH	TPW2R508NH		
	30-50						TPN30008NH	
	10-20	TK35A08N1	TK35E08N1		TPH12008NH		TPN13008NH	
	5-10	TK46A08N1	TK46E08N1		TPH8R008NH			
	3-5	TK72A08N1 TK100A08N1	TK72E08N1 TK100E08N1		TPH4R008NH	TPW4R008NH		
100	30-50						TPN3300ANH	TK7S10N1Z
	20-30							TK11S10N1L
	10-20	TK22A10N1	TK22E10N1		TPH1400ANH		TPN1600ANH	
	5-10	TK34A10N1 TK40A10N1	TK34E10N1 TK40E10N1		TPH8R80ANH			TK33S10N1Z TK55S10N1
	3-5	TK65A10N1 TK100A10N1	TK65E10N1 TK100E10N1	TK65G10N1	TPH4R50ANH	TPW4R50ANH		
	<3			TK160F10N1*				
120	10-20	TK32A12N1	TK32E12N1					
	5-10	TK42A12N1 TK56A12N1	TK42E12N1 TK56E12N1					
	3-5	TK72A12N1	TK72E12N1					
150	50-100				TPH5900CNH		TPN5900CNH	
	20-50				TPH3300CNH			
	10-20				TPH1500CNH			
200	100-200				TPH1110ENH		TPN1110ENH	
	50-100				TPH6400ENH			
	20-50				TPH2900ENH			
250	200-300				TPH2010FNH		TPN2010FNH	
	100-200				TPH1110FNH			
	50-100				TPH5200FNH			

* TO-220SM(W) package; ** U-MOS IX technology; **New Product**