

**LV MOSFET**

> **U-MOS**  
**Highest Efficiency at Light Loads**

U-MOS VIII-H and IX are high-efficiency Low Voltage MOSFET series specifically designed for use in the secondary side of AC-DC power supplies for adapters, servers etc., as well as DC-DC power supplies for communication equipment, servers and data centre. U-MOS IX is also suitable for motor drives, UPS and machine tools. This technology is specified up to 175°C for use in higher temperature application.

> **APPLICATIONS**

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

> **FEATURES**

Latest Gen-8 and Gen-9 trench MOS process

Improved energy efficiency categories

Dual side cooling

Highest performance in on-resistance per die area (RON·A)

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

> **ADVANTAGES**

Applicable in various power apps

Significant better trade-offs between on-resistance ( $R_{DSon}$ ) and input capacitance ( $C_{iss}$ )

High avalanche ruggedness

Reduced electromagnetic radiation

Same efficiency as competitors' devices at heavy loads and higher efficiency at light loads

Reduction of thermal resistance by approx. 50% resulting in higher load capability and reliability

Ideal for applications that require higher efficiency, smaller size etc.

Meets the requirements of various applications

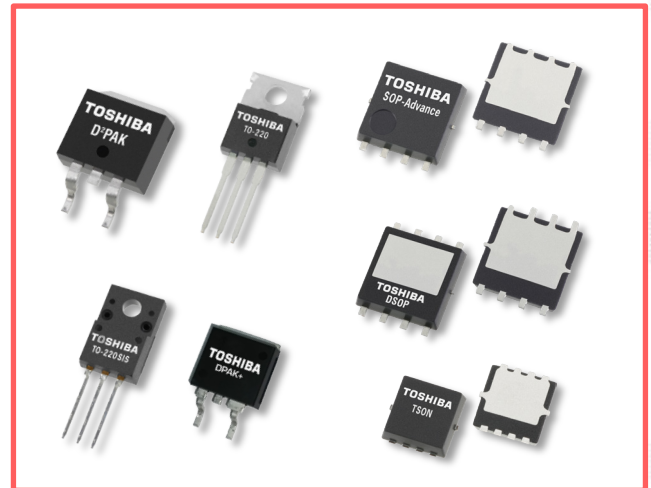
> **BENEFITS**

**Attractive cost effects**

- Lower system costs due to fast switching & smaller form factor
- Low service costs based on increased lifetime (cooler system) to reduce costs of operation failures
- Flexible system costs by cost variations related to product construction (topology)

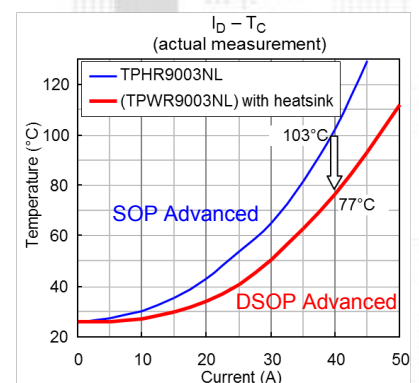
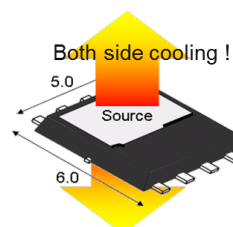
**Smart performance increases**

- Improved end product quality
- Improved end product reliability
- Increased demand and market share



> **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 providing the same efficiency as competitors' devices at heavy loads.

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

$V_{DSS}$ (V)	$R_{DSON}$ In m $\Omega$	TO-220SIS	TO-220	D2-PAK (TO-263)	SOP Advance 5x6mm	DSOP Advance 5x6mm	<b>NEW</b> TSON Advance 3x3mm	<b>NEW</b> DPAK+
								
30	10-20				TPH11003NL		TPN11003NL	
	5-10				TPH8R903NL TPH6R003NL		TPN8R903NL TPN6R003NL TPN6R303NC <b>TPN5R203PL**</b>	
	3-5				TPH4R003NL TPH3R203NL		TPN4R203NC TPN4R303NL	
	1-3				<b>TPH3R003PL**</b> <b>TPH2R903PL**</b> <b>TPH2R003PL**</b> TPH1R403NL		TPN2R203NC TPN2R503NC TPN2R703NL <b>TPN2R903PL**</b>	
	<1				TPHR9003NL <b>TPHR9203PL**</b> <b>TPHR6503PL**</b>	TPWR8503NL <b>TPWR6003PL**</b>	<b>TPN1R603PL**</b>	
40	10-20							TK15S04N1L
	5-10				<b>TPH7R204PL**</b> <b>TPH6R004PL**</b>		<b>TPN7R504PL**</b>	
	3-5	<b>TK3R1A04PL**</b>	<b>TK3R1E04PL**</b>		<b>TPH3R704PL**</b>		<b>TPN3R704PL**</b>	TK65S04N1L
	<3			<b>TK1R4F04PB**</b>	<b>TPH2R104PL**</b> <b>TPH1R204PL**</b>		<b>TPN2R304PL**</b>	TK100S04N1L <b>TK1R4S04PB**</b>
	<1			<b>TK200F04N1*</b> <b>TKR74F04PB* **</b>	<b>TPHR8504PL**</b>	<b>TPWR8004PL**</b>		
60	20-30						TPN22006NH	
	10-20	TK30A06N1 TK40A06N1	TK30E06N1 TK40E06N1		TPH14006NH TPH11006NL		TPN14006NH TPN11006NL	TK25S06N1L TK40S06N1L
	5-10	TK58A06N1 <b>TK8R2A06PL**</b>	TK58E06N1 <b>TK8R2E06PL**</b>		<b>TPH9R506PL**</b> TPH7R506NH <b>TPH6R306PL**</b> TPH5R906NH		TPN7R506NH	
	3-5	<b>TK4R3A06PL**</b>	<b>TK4R3E06PL**</b>		<b>TPH3R506PL**</b>			TK90S06N1L
	1-3	TK100A06N1	TK100E06N1		TPH2R306NH <b>TPH2R306PL**</b> <b>TPH1R306PL**</b>	<b>TPW1R306PL**</b>		
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			<b>TK160F10N1*</b>				
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**