

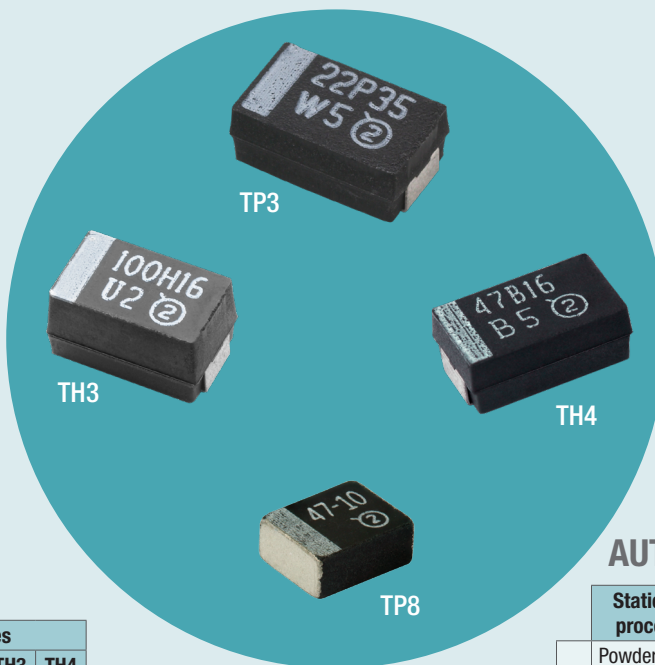


AUTOMOTIVE GRADE TANTALUM CAPACITORS

HIGH PERFORMANCE, HIGH TEMPERATURE, SMALL SIZES

IN A
NUTSHELL

Solid Tantalum Surface-Mount Chip Capacitors, Molded Case		
Series	Feature	AUTOMOTIVE GRADE
TP3	High Performance High Reliability	✓
TH3	150 °C	✓
TH4	175 °C	✓
TP8	Leadframeless, High CV	✓



PERFORMANCE CHARACTERISTICS

www.vishay.com/docs/40215/typperf molded chip caps.pdf

AUTOMOTIVE APPLICATIONS

		Series			
Application		TP3	TP8	TH3	TH4
Power train	Gasoline direct injection			x	x
	Transmission	x		x	x
	Oil & water pump	x		x	x
	Oil quality sensor			x	x
Passive safety	Airbag			x	x
	Tire pressure monitoring sensor (TPMS)		x		
Active safety	Anti-lock braking system (ABS)			x	x
	Lane departure camera	x	x		
	Electric stability program (ESP)	x			
Passive safety	Key less entry		x		
	Smart airbag igniter	x		x	
Chassis	Electronic power steering (EPS)	x		x	
Body control	Electrical park break			x	x
	Heating, ventilation, air-con	x		x	x
	LED lighting	x	x	x	x
Battery management	Charging control	x			x
Infotainment & navigation	Display and controller LDO	x	x		
Surround view camera	FPGA power supply	x	x		
Electric vehicle	On-board charger		x		

QUALITY

- IATF 16949
- AEC-Q200
- TAQ:
 - LAT
 - Maverick lots
 - Error proofing
 - 6 Sigma
 - FMEA



AEC-Q200
PPAP available

AUTOMOTIVE GRADE FOR SUPERIOR QUALITY

	Station / process	Automotive Grade	Standard
Front End	Powder preparation	Use of single powder batch	Use of mixed powder batches
	Pressing / Sintering	Pellet lot from single powder batch	No requirement
	Formation	Visual inspection for coating dimensions: 5 pellet per bar x 3 bars per lot.	No requirement
	Cap test	Conductivity monitoring	No requirement
	Silver check	Visual inspection x3: 3 bars per rack (zero defect allowed)	Visual inspection, 4 bars per lot
Assembly	Assembly	Inspection of each 5 th LF (zero defect allowed)	Inspection of each 9 th LF (specified allowed failure rate)
		100 % VI after assembly	No requirement
		Special technician inspection and adjustment after each no weld detected	No requirement
	Electrical test	Redundant test	Single test (A / B / C cases); redundant test (D / E cases)
	Surge test	B, C, D, and E cases	D and E cases
	Labeling	Autolabeling attachment only	No requirement
QC	QC	Scan / scan verification of each reel	First and last reel only
		LAT and Maverick lot inspection	No requirement