



APPLICATION MATRIX

THERMISTORS / VARISTORS



		PRODUCT TYPE / SERIES							
		NTC ⁽¹⁾				RTD		PTC	MOV
		NTCS	NTCC	NTCLE	NTCA	PTS, PTS AT	TFPT	PTCEL, PTCCCL	VDRUS, VDRH
MARKET SEGMENT	APPLICATIONS								
Automotive Hybrid (HEV) and Full Electric (EV)	Electric Motor Drives / Inverters (DC/AC)								
	Battery Management Systems (DC/DC)								
	On- and Off-Board Charging / Plugs 								
	Exterior Lighting (LED daylights, fog, headlights, signal)								
	Safety Systems (Airbag, ADAS, braking / stability control, tire monitoring, LiDAR)								
	Body Electronics (Comfort / HVAC, infotainment, interior lighting, latch controls, seating, gesture control)								
Industrial	Factory Automation (Motor drives, lasers, robotics, LVPS, process control, test and instrumentation)								
	Fabrication (Welding, cutters, 3D printing, power tools)								
	Lighting (Industrial LED, lighting ballast)								
	Appliance (HVAC, refrigeration / freezer, water heaters, pumps, drinking fountains, elevators)								
	Meters (Electrical, water, gas, payment systems)								
	Detection and Initial Safety Devices (Gas, fire, thermostat, liquid level, fault indication, concrete sensors, fracking detonation)								
	Surveillance Systems (Cameras, access control, door / gate, RFID)								
Medical	Imaging Systems (X-ray, CT, MRI)								
	Implantable (Cardiac pacing, nerve stimulation, non-life saving / sustaining)								
	Portable Medical (Defibrillators, CPAP, oxygenators, irrigation tools, hypothermia devices, radiation)								
	Patient Monitoring (Analysis equipment, incubators, body temperature probes, sensors)								
	Medical Appliances (Refrigeration, heating)								
	Meters (Blood glucose, wearables)								

Note
⁽¹⁾ Customization options available; minimums apply

Accelerating Product Design Cycles | Vishay's Design Tools Complemented With Excellent Technical Support Allow Engineers to Cost-Effectively Prove Out Design Concepts Through Simulation | Design Tools | SPICE Models | 3D Models



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Consumer 	Wearable / Consumer Electronics (Smart watches, fitness bands, e-cigarettes, alcohol testers)								
	Home Entertainment / Automation (Set-top boxes, audio, security systems, smart home (thermostat, lighting, etc.))								
	Toys / Outdoor Equipment (Remote controlled vehicles, tools, battery packs / chargers, fish finders)								
	e-Bikes / Scooters								
	Home Appliances (HVAC, cooker, laundry, refrigeration, countertop appliances, water heaters, pool / spa)								
	Robotic Appliances / Domestic Robots (Robotic vacuums, lawnmowers, companions)								
	Lighting (LED, OLED displays, conventional lighting controls)								
Alternative Energy 	Photovoltaic (Sensor module, junction box, meter, monitoring)								
	Wind (System control unit, backup safety system)								
	Electrical Power Distribution / Grid Stabilization (Smart grid)								
	Thermal Systems								
	Battery Systems								
	Inverters								
Avionics, Military, and Space 	Satellite / GPS (Electric motors, gearbox controls, battery systems, gyro navigation, communication)								
	Airborne Systems (Engine control units, braking, fuel / oil, battery systems, weapon fusing, radar)								
	Cockpit / Avionics (HVAC, flight controls, latch controls, fire control, infotainment, interior lighting)								
	UAVs / Drones (Engine control units, electric motors, flight controls, battery systems)								

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