

For Automotive Electronics KOA Products

Selection Guide

• Below are our products recommended for automotive applications.
• Ask our business contact for other products applicable to automotive applications.



RS73F/RK73G	Precision
Features	Excellent Resistance Tolerance and T.C.R. RS73 : Low T.C.R., High Reliability (Ultra Precision)
Performance	Resistance tolerance: $\pm 0.1\%$ ~ T.C.R.: $\pm 25 \times 10^{-6}/K$ Long term stability: 0.2%~
HSG73P	High Temperature
Features	Superior to general type pulse withstanding voltage and high power. Suitable for conductive glue mounting (Au plating)
Performance	Power rating: 0.125W~0.75W Operating temp. range: -55°C~175°C (Au plating: ~200°C)
WK73R	Wide Terminal Type
Features	High rated power and resistant to heat cycle 0204~1225 inch size WG73 : Anti Pulse (0612~1225 inch size)
Performance	Power rating: 0.33W~3W
SG73	Anti Surge • Anti Pulse
Features	SG73S : Anti Surge (Precision) SG73P : Anti Pulse (Precision) SG73G : Low T.C.R. Type (Ultra Precision)
Performance	Resistance tolerance: $\pm 0.25\%$ ~ T.C.R.: $\pm 50 \times 10^{-6}/K$ ~
HV73V	High Voltage
Features	Excellent for higher Working Voltages 0603~1206 inch Size
Performance	Max. working voltage: ~800V (1206 inch size)
□-RT	Anti Sulfuration
Features	Excellent anti-sulfuration characteristic Line up various types from general purpose to low resistance General, Precision, Anti Surge, Wide Terminal, High Voltage, Low resistance, High Temperature
Performance	Resistance tolerance: $\pm 0.1\%$ ~



PSS®	Chip Type Power Shunt
Features	Metal plate type 0805 inch size Large current sensing in small size
Performance	Resistance Range: 0.5m Ω , 1m Ω Power rating: 1.25W T.C.R.: $90 \pm 50 \times 10^{-6}$ ~
TLR	Metal Plate
Features	0402~2512 inch size TLRZ : Jumper Type 0.2m Ω Max.~ TLRH : Low T.C.R., 6m~270m Ω (0805, 2512 inch size)
Performance	Resistance Range: 0.5m~20m Ω Power rating : 0.25W~5W T.C.R. : $\pm 50 \times 10^{-6}/K$ ~
SL	Molded Type
Features	Resistance to heat cycle SLN : Low T.C.R. Type
Performance	Resistance Range: 3m~360m Ω Power rating : 0.75W~7W T.C.R. : $\pm 50 \times 10^{-6}/K$ ~
WK73S/WU73	Thick Film Wide Terminal Type
Features	Thick film wide termination type, 10m~9.76 Ω Resistant to heat cycle WU73 : Low T.C.R. Type (0612 inch size)
Performance	Power Rating : 0.75W~3W T.C.R. : $\pm 75 \times 10^{-6}/K$ ~
UR73V/SR73	Thick Film
Features	Thick film type, 10m~10 Ω 0201~2512 inch size UR73V : Low T.C.R. Type (0805, 1206 inch size)
Performance	Power Rating : 0.166W~2W T.C.R. : $\pm 75 \times 10^{-6}/K$ ~

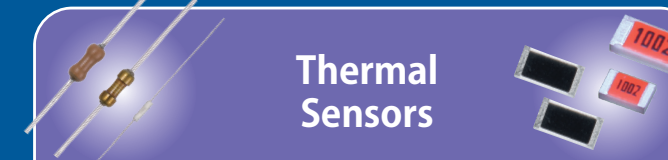
※ Under development



HVD	Thin Film Resistors Network For High Voltage Divider	RN73H	Thin Film Flat Chip Resistors
Features	High precision high voltage divider Relative precision of pair resistors is guaranteed High reliability, long term stability package	Features	High precision Excellent in long term stability 0402~1210 inch size
Performance	Max. working voltage: ~1000V Resistance range: ~51M Ω Operating temp. range: -55°C~155°C	Performance	Resistance tolerance: $\pm 0.05\%$ ~ T.C.R.: $\pm 5 \times 10^{-6}/K$ ~ Operating temp. range: -55°C~+155°C
KPC	Thin Film Resistor Networks	HPC/PCF	Ceramic Resistors for Anti Pulse • Surge
Features	Ultra high precision High reliability, long term stability package SOT-23, QSOP 16/20/24, SOIC 08/14/16	Features	Active discharge resistor for xEV Excellent in anti-pulse characteristics Low inductance structure
Performance	Relative resistance tolerance: $\pm 0.05\%$ ~ Tracking T.C.R. : $\pm 5 \times 10^{-6}/K$ ~ Operating temp. range: -55°C~+125°C (155°C is custom)	Performance	Resistance: 3.3~390k Ω Power Rating: 0.5W~5W Operating temp. range: -40~+200°C



B□RV	Ceramic Case Resistors	CPCN	Ceramic Resistors/Noise suppressor
Features	BGRV : Wirewound Resistors (Glass Core) BWRV : Wirewound Resistors (Ceramic Core) BSRV : Metal Oxide Film Resistors (Ceramic Core)	Features	Noise reduction of engine ignition circuit. 10.7×3.5mm~18.3×7.2mm 2NS : SUG304 Electrode cap
Performance	Resistance range: 1~75k Ω Power rating : 3W~60W Operating temp. range : -40°C~+155°C	Performance	Resistance : 1k, 2k, 5k, 10k, 15k Ω Power rating : 0.5W~2W Operating temp. range : -40°C~+200°C



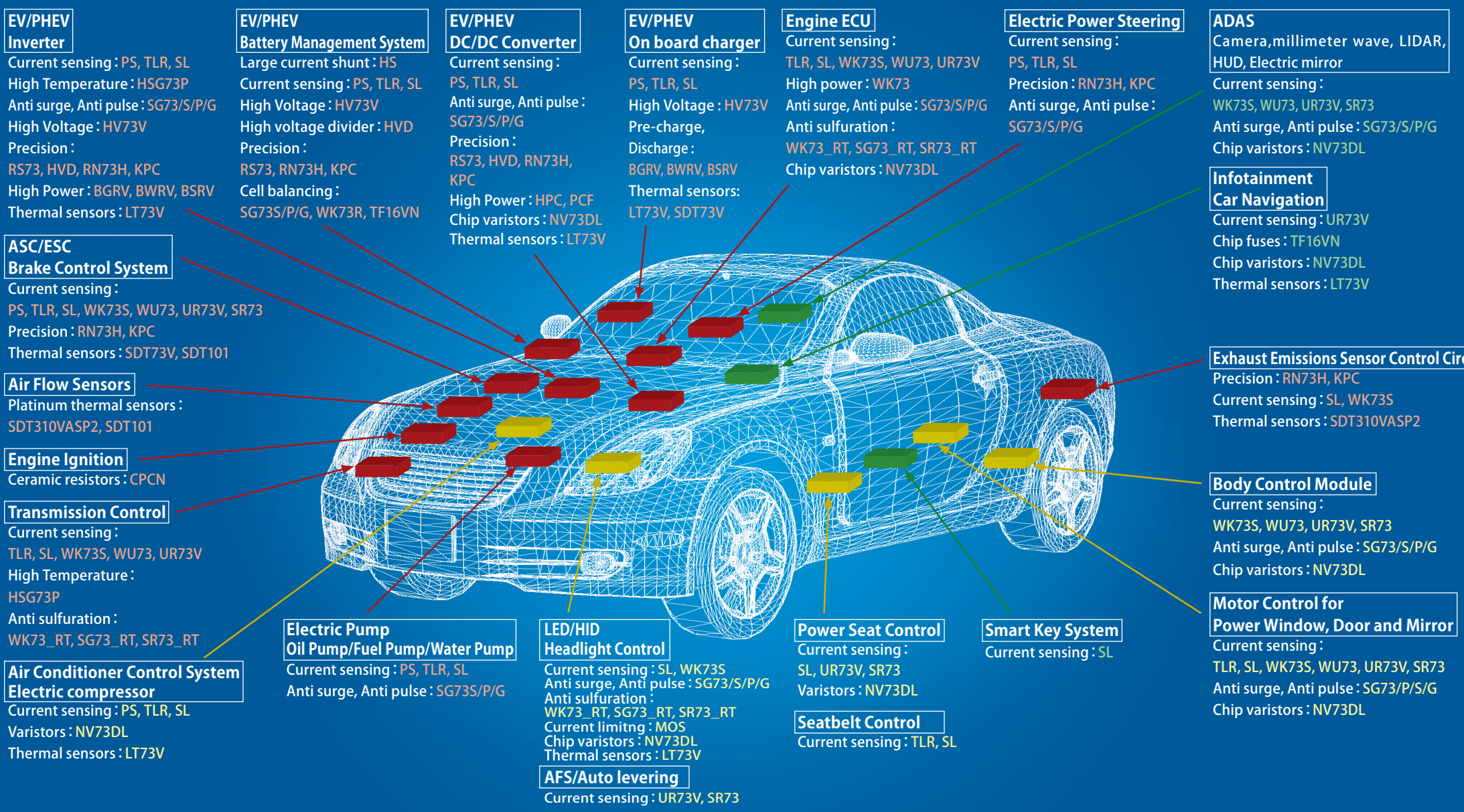
SDT310VASP2	Small type Platinum Thin Film Thermal Sensors (Small Heater Element)
Features	Resistance value 20 Ω Usable as a heater of hot film flow sensor Thermal time constant 2.8s
Performance	Resistance tolerance: $\pm 1\%$ Power rating : 0.5W Operating temp. range : -55°C~+600°C
SDT101/SDT73V	Platinum Thin Film Thermal Sensors
Features	SDT101B : Leaded type (Resistance : 10, 100, 500 Ω) SDT101SA : Leaded type (Resistance : 1k Ω) SDT73V : SMD type (Resistance : 100, 500 Ω)
Performance	Resistance tolerance: $\pm 0.2\%$ ~ T.C.R. : $3500 \times 10^{-6}/K$ (SDT101B), $3850 \times 10^{-6}/K$ (SDT73V) Operating temp. range : -55°C~+300°C (SDT73V)~+155°C
LT73V	Linear PTC Flat Chip Resistors
Features	SMD thin film thermal sensors
Performance	Rated ambient temp. : 85°C Resistance tolerance: $\pm 2\%$, $\pm 5\%$ T.C.R. : $150 \sim 4500 \times 10^{-6}/K$



TF16VN	Chip Current Fuses
Features	SMD over current protectors Rapid change of temp. -55°C/+125°C, 1000 cycles
Performance	Rated current : 0.40~3.15A Rated voltage : 32V(High rated voltage products: ~125V)
NV73DL	Multilayer Metal Oxide Chip Varistors
Features	Surge voltage protectors Suitable as countermeasure against ESD 0603~1206inch size
Performance	Varistor voltage : 12~82V Maximum peak current (8/20 μ s) : 80~300A



KLC	LTCC Multilayer Substrate
Features	Excellent high frequency performance ceramics of low dielectric-loss Custom Hybrid IC is available
Performance	Dielectric constant : 6.6, C.T.E. : $5.5 \times 10^{-6}/K$ Conductor resistivity : Silver 2.5 $\mu\Omega \cdot$ cm Line/Space : 60/60 μ m Min.



Category	Type	Product Name	Operating Temperature		AEC-Q200 Data	note		
			Lower (°C)	Upper (°C)				
Thick Film Resistors	RK73	Flat Chip Resistors			○※	※Exemption B/H : 1F (to125°C)		
	RK73-RT	Flat Chip Resistors (Anti Sulfuration)			○			
	RS73	High Reliability Flat Chip Resistors			○			
	RS73-RT	High Reliability Flat Chip Resistors (Anti Sulfuration)			○			
	SG73S/P/G	Surge Current Flat Chip Resistors			○			
	SG73S/P-RT	Surge Current Flat Chip Resistors (Anti Sulfuration)			○			
	WK73R/WG73	Wide Terminal Type Flat Chip Resistors/Anti Surge			○			
	WK73R/S-RT	Wide Terminal (Anti Sulfuration)			○			
	HV73V	Flat Chip Resistors For High Voltage			○			
	HV73V-RT	Flat Chip Resistors For High Voltage (Anti Sulfuration)			○			
	HSG73P	High Temperature Flat Chip Resistors		175※	○	※Au Termination : to 200°C		
	HSG73P-RT	High Temperature Flat Chip Resistors (Anti Sulfuration)		175	○			
SLR	Mold Type Thick Film Resistors		180	○				
MWS	Mold Wirewound Resistors		200	○				
Current Detecting Resistors	SR73	Low Resistance Flat Chip Resistors			○※	※Exemption 1H		
	SR73-RT	Low Resistance Flat Chip Resistors (Anti Sulfuration)			○			
	UR73V	Low Resistance Flat Chip (Low T.C.R.)			○			
	WK73S/WU73	Wide Terminal Type Flat Chip Resistors/Low T.C.R.			○			
	SL/SLN/TSL	Current Detecting Chip Resistors		-55※	180	○	※SLN5: -65 to 180°C	
	TLR	Metal Plate Chip Type Low Resistance Resistors			170※	○	※2A: to 155°C	
	TLRZ	Metal Plate Chip Type Jumper			170	○		
	TLRH	Metal Plate Chip Type Low Resistance Resistors			170※	○	※2A: to 155°C	
	PSS	Chip Type Power Shunt			175	○		
	RN73H/R	Thin Film Flat Chip Resistors			155	○		
	KPC	Thin Film Resistor Networks			125※	—	※155°C is Custom	
	HVD	Thin Film Resistors Network For High Voltage Divider			155	○		
RN41	Melf Type Thin Film Resistors			155	○※	※Only 2E5/3A5		
Power Resistors	BGRV	Wirewound Resistors (Glass Core)			○			
	BWRV	Wirewound Resistors (Ceramic Core)			○			
	BSRV	Metal Oxide Film Resistors			○			
	HPC	Ceramic Resistors for Anti Pulse • Surge			○			
	PCF	Ceramic Resistors for Anti Pulse • Surge			○			
	CPCN	Ceramic Resistors			—	—	Check the use conditions	
Thermal Sensors	SDT310VASP2	Small type Platinum Thin Film Thermal Sensors (Small Heater Element)			600※	○	※Temperature of the device including a self-heating and ambient temperature.	
	SDT101B	Platinum Thin Film Thermal Sensors			300	○※	※Only 500 Ω	
	SDT101SA	Platinum Thin Film Thermal Sensors			150	○		
	SDT73V	Platinum Thin Film Thermal Chip Sensors			155	○		
	LT73V	Linear PTC Flat Chip Resistors			○			
Circuit Protectors	NV73DL	Multilayer Metal Oxide Chip Varistors			-40	○		
	TF16VN	Chip Current Fuses			-55	○		
LTCC	KLC	LTCC Multilayer Substrate			—	—	—	Check the use conditions

○: Applicable —: N/A

● Description of classification by use for automotive		
Power train • Chassis control system	Engine ECU • Transmission ECU • Battery management system and inverter control unit of hybrid vehicle • Electric power steering, ABS, Electric brake etc., operating temperature range of the installation environment is roughly	-40°C~+155°C
Body electrical system	Electric pump, Electric mirror • Power seat • Air-bag ECU • Head lamp control • TPMS • Rader system etc., operating temperature range of the installation environment is roughly	-40°C~+105°C
Accessories	Car-audio/video • Navigation • ETC • Back sonar • Back monitoring camera etc., operating temperature range of the installation environment is roughly	-40°C~+85°C

• The categories are our own example and will not limit the use of the products nor guarantee the performance unconditionally.
• Should you wish to use the products introduced here contact our sales because this is only a guide to decide which product is to be used for automotive applications. Test and check the products mounted on the actual applications.