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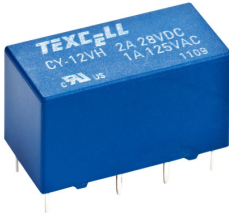
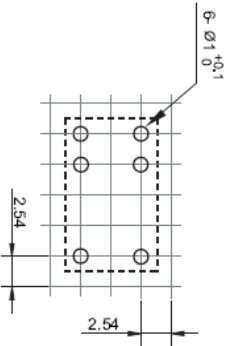
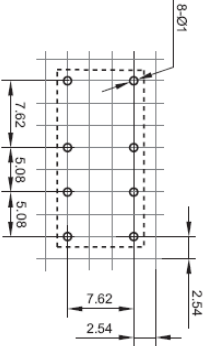
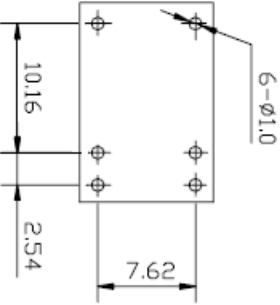
DRA Series 36

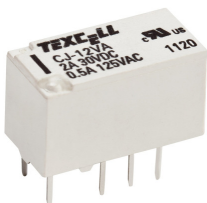
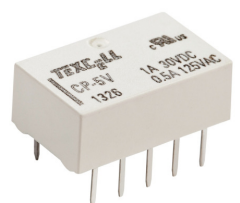
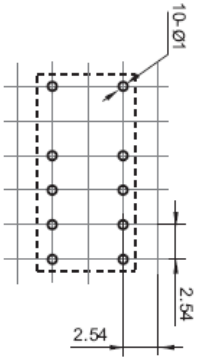
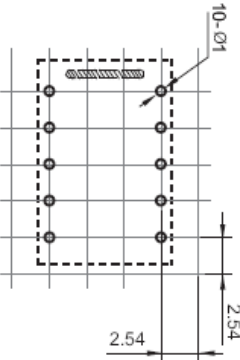
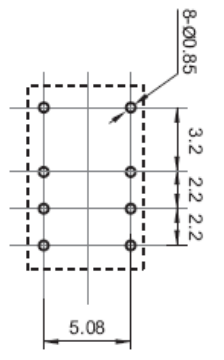
KPD-1A Series 36

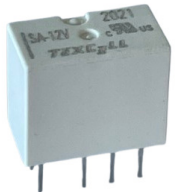
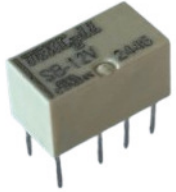
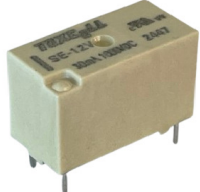
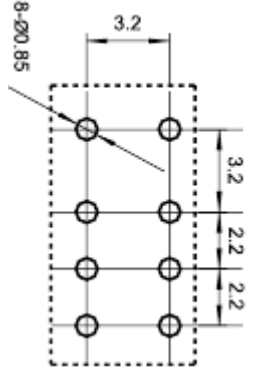
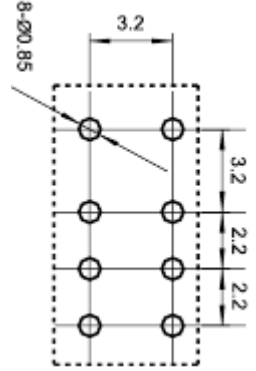
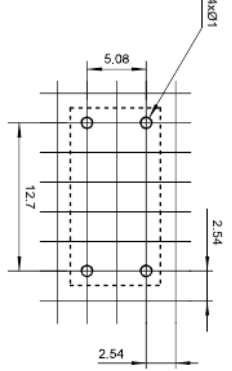
KPD-3A Series 36

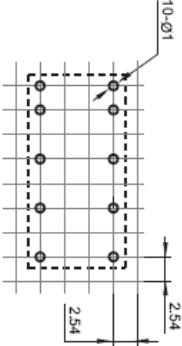
KPD-4A Series 36

Signal Relay

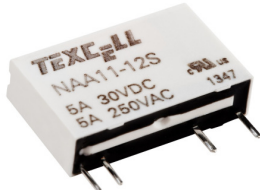
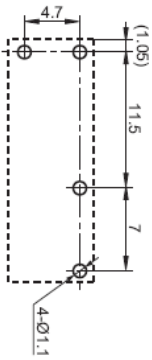
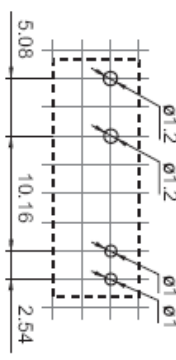
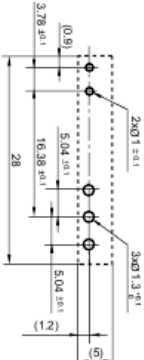
Model		TY	CY	TA
Appearance				
Outline Dimension: L x W x H (mm)		12.5 x 7.5 x 10.0	20.2 x 10.0 x 11.5	15.7 x 10.4 x 11.7
Contact	Contact Arrangement	1C	2C	1A, 1C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgNi + Au plated	AgNi + Au plated	AgNi
	Contact Ratings (Resistive Load)	0.5A 125VAC 1A 30VDC	1A 125VAC 2A 30VDC	3A 120VAC 3A 24VDC
	Max. Switching Current	2A	2A	5A
	Max. Switching Voltage	125VAC / 60VDC	240VAC / 120VDC	240VAC / 60VDC
	Max. Switching Power	62.5VA / 30W	125VA / 60W	360VA / 90W
Coil	Rated Voltage	1.5~24VDC	3~24VDC	3~48VDC
	Coil Power	150mW, 200mW	150mW, 200mW	200mW, 360mW, 450mW
Insulation Resistance		1000MΩ	1000MΩ	100MΩ
Dielectric Strength	Open Contacts	500VAC	1000 / 750VAC	500VAC
	Coil and Contacts	1000VAC	1500VAC	1000VAC
	Contact Sets	-	-	-
Temperature Range		-40 to 90℃	-40 to 85℃	-30 to 85℃
Operate / Release Time		5ms / 5ms	7ms / 4ms	5ms / 5ms
Electrical Endurance		90,000	100,000	100,000
Mechanical Endurance		10,000,000	100,000,000	10,000,000
Weight (Approx.)		2.2g	5g	3.5g
Lay Out (Bottom View)				
Terminal Type		PCB (DIP)	PCB (DIP)	PCB (DIP)
Approved Standards		UL, cUL	UL, cUL	UL, cUL

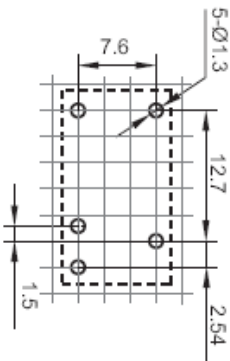
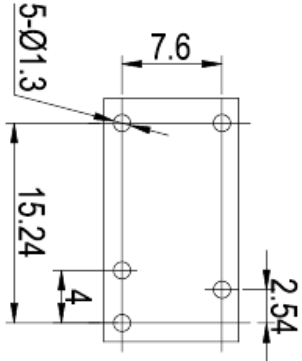
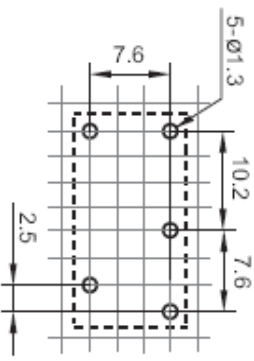
Model		CJ	CP	NC
Appearance				
Outline Dimension: L x W x H (mm)		15.0 x 7.5 x 9.0(8.5)	14.0 x 9.0 x 5.4(5.9)	10.0 x 6.5 x 5.4
Contact	Contact Arrangement	2C	2C	2C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgNi + Au plated	Ag + Au plated	AgNi + Au plated
	Contact Ratings (Resistive Load)	0.5A 125VAC 2/3A 30VDC	0.5A 125VAC 1/2A 30VDC	0.3A 125VAC 1A 30VDC
	Max. Switching Current	4A	2A	2A
	Max. Switching Voltage	277VAC / 220VDC	250VAC / 220VDC	250VAC / 220VDC
	Max. Switching Power	62.5VA / 90W	62.5VA / 30W	62.5VA / 60W
Coil	Rated Voltage	1.5~48VDC	1.5~24VDC	1.5~24VDC
	Coil Power	100mW, 140mW, 200mW	100, 140, 200, 300mW	100mW, 140mW, 200mW
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	750VAC	1000VAC
	Coil and Contacts	2000VAC	1500VAC	1600VAC
	Contact Sets	1500VAC	1500VAC	1800VAC
Temperature Range		-40 to 85℃	-40 to 70℃	-40 to 105℃
Operate / Release Time		4ms / 4ms	3ms / 3ms	3ms / 3ms
Electrical Endurance		100,000	100,000	100,000
Mechanical Endurance		100,000,000	100,000,000	100,000,000
Weight (Approx.)		2g	1.8g	0.8g
Lay Out (Bottom View)				
Terminal Type		PCB (DIP, SMT)	PCB (DIP, SMT)	PCB (DIP, SMT)
Approved Standards		UL, cUL	UL, cUL	UL, cUL

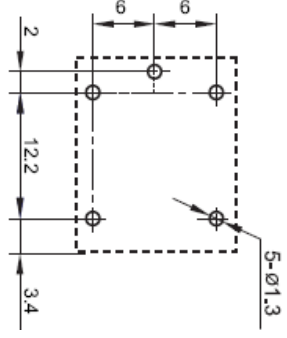
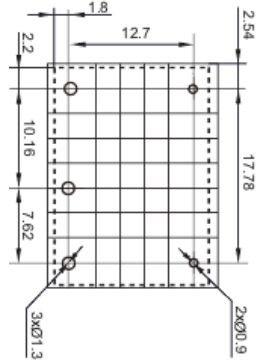
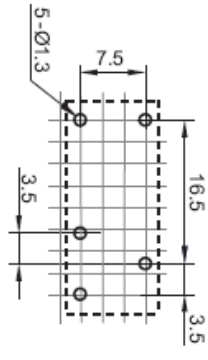
Model		SA	SB	SE
Appearance				
Outline Dimension: L x W x H (mm)		10.6 x 5.7 x 9.0	9.0 x 4.8 x 4.9	15.0 x 7.5 x 10.0
Contact	Contact Arrangement	2C	2C	1A
	Contact Resistance	100mΩ	100mΩ	150mΩ
	Contact Material	AgNi + Au plated	Ag alloy + Au plated	Ag alloy + Au plated
	Contact Ratings (Resistive Load)	1A 125VAC 2A 30VDC	0.3A 125VAC 1A 30VDC	1A 277VAC 1A 110VDC
	Max. Switching Current	4A	2A	4A
	Max. Switching Voltage	250VAC / 220VDC	250VAC / 220VDC	1400VAC / 2000VDC
	Max. Switching Power	125VA / 120W	62.5VA / 60W	277VA / 110W
Coil	Rated Voltage	1.5~24VDC	1.5~24VDC	1.5~24VDC
	Coil Power	100mW, 140mW	50mW	200mW
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	750VAC	750VAC	3000VAC/4300VDC
	Coil and Contacts	1500VAC	1500VAC	4500VAC/7000VDC
	Contact Sets	1800VAC	1000VAC	-
Temperature Range		-40 to 85℃	-40 to 85℃	-40 to 105℃
Operate / Release Time		3ms / 3ms	2ms / 2ms	6ms / 6ms
Electrical Endurance		100,000	300,000,000	100,000
Mechanical Endurance		100,000,000	100,000,000	10,000,000
Weight (Approx.)		1.1g	0.5g	2.5g
Lay Out (Bottom View)				
Terminal Type		PCB (DIP, SMT)	PCB (DIP, SMT)	PCB (DIP, SMT)
Approved Standards		UL, cUL	UL, cUL	UL, cUL

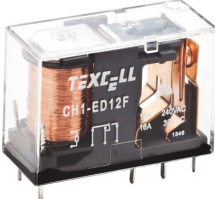
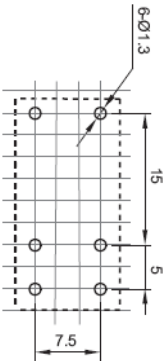
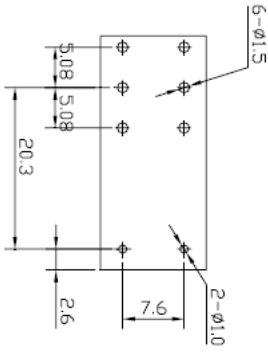
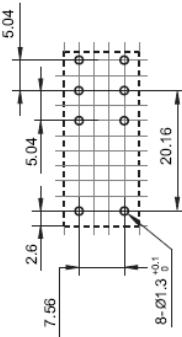
Model		NB		
Appearance				
Outline Dimension: L x W x H (mm)		20.2 x 10.2 x 10.6		
Contact	Contact Arrangement	2C		
	Contact Resistance	100mΩ		
	Contact Material	AgNi + Gold plated		
	Contact Ratings (Resistive Load)	1A 125VAC 2/3A 30VDC		
	Max. Switching Current	3A		
	Max. Switching Voltage	250VAC / 220VDC		
	Max. Switching Power	125VA / 90W		
Coil	Rated Voltage	3~48VDC		
	Coil Power	75, 100, 150, 200mW		
Insulation Resistance		1000MΩ		
Dielectric Strength	Open Contacts	1000VAC		
	Coil and Contacts	1000/1500VAC		
	Contact Sets	-		-
Temperature Range		-40 to 85 °C		
Operate / Release Time		4.5ms/3.5ms, 4.5ms/4.5ms		
Electrical Endurance		50,000		
Mechanical Endurance		100,000,000		
Weight (Approx.)		4.5g		
Lay Out (Bottom View)				
Terminal Type		PCB (DIP)		
Approved Standards		UL, cUL		

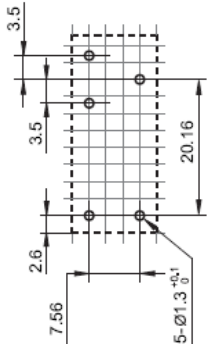
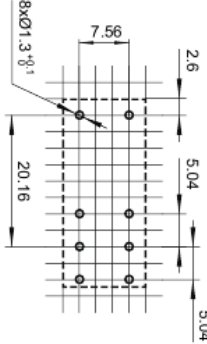
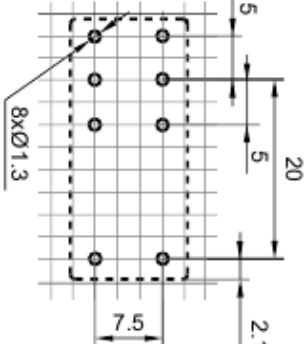
Power Relay

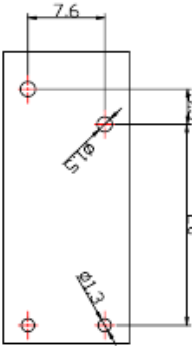
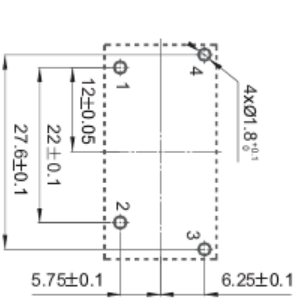
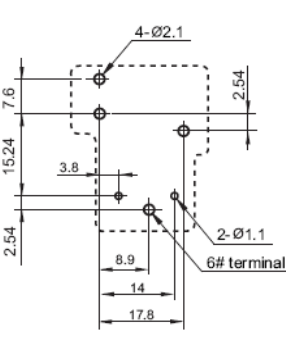
Model		CU	NA	SK
Appearance				
Outline Dimension: L x W x H (mm)		20.5(23.4) x 7.0 x 15.3	20.0 x 5.0 x 12.5	28 x 5 x 15
Contact	Contact Arrangement	1A, 1C	1A	1A, 1C
	Contact Resistance	100mΩ	100(50)mΩ	100mΩ
	Contact Material	AgNi	AgNi, AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	5A 250VAC 5A 30VDC	5A 250VAC 5A 30VDC	6A 250VAC 6A 30VDC
	Max. Switching Current	5A	5A	6A
	Max. Switching Voltage	277VAC / 30VDC	250VAC / 125VDC	250VAC / 30VDC
	Max. Switching Power	1385VA / 150W	1250VA / 150W	1500VA / 180W
Coil	Rated Voltage	3~24VDC	5~24VDC	5~60VDC
	Coil Power	200mW, 360mW	120mW, 180mW	170mW, 210mW
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1000VAC	1000VAC
	Coil and Contacts	4000VAC	3000VAC	4000VAC
	Contact Sets	-	-	-
Temperature Range		-40 to 85℃	-40 to 85℃	-40 to 85℃
Operate / Release Time		10ms / 10ms	10ms / 5ms	8ms / 4ms
Electrical Endurance		100,000	100,000	60,000
Mechanical Endurance		5,000,000	20,000,000	10,000,000
Weight (Approx.)		3g	3g	5g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL	UL, cUL	UL, cUL

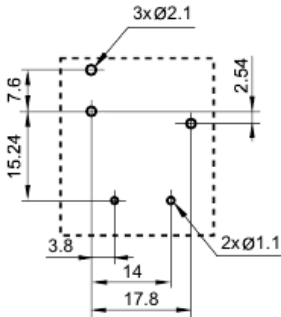
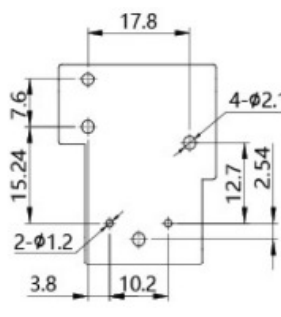
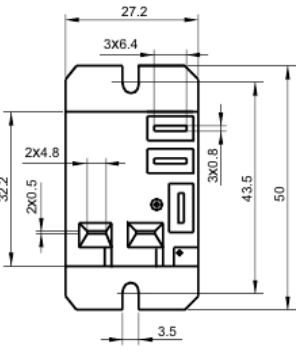
Model		CS	SS	NS
Appearance				
Outline Dimension: L x W x H (mm)		18.4 x 10.2 x 15.5	18.6 x 10.3 x 13.0	20.5 x 10.2 x 15.7
Contact	Contact Arrangement	1A, 1C	1A, 1C	1A, 1C
	Contact Resistance	100mΩ	70(100)mΩ	100mΩ
	Contact Material	AgSnO ₂	AgNi, AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	10A 250VAC 10A 30VDC	10A 250VAC	5A 250VAC 5A 30VDC
	Max. Switching Current	10A	10A	10A
	Max. Switching Voltage	277VAC / 30VDC	250VAC	250VAC / 30VDC
	Max. Switching Power	2770VA / 300W	2500VA	1250VA / 150W
Coil	Rated Voltage	3~48VDC	3~24VDC	3~48VDC
	Coil Power	200mW, 450mW	200mW, 450mW	200mW, 450mW
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1000VAC	1000VAC
	Coil and Contacts	4000(2500)VAC	5000(4000)VAC	4000VAC
	Contact Sets	-	-	-
Temperature Range		-40 to 105℃	-40 to 85℃	-40 to 85℃
Operate / Release Time		8ms / 5ms	8(10)ms / 4(5)ms	8ms / 5ms
Electrical Endurance		100,000	100,000	100,000
Mechanical Endurance		10,000,000	1,000,000	5,000,000
Weight (Approx.)		6g	4.6g	7g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL	UL, cUL	UL, cUL

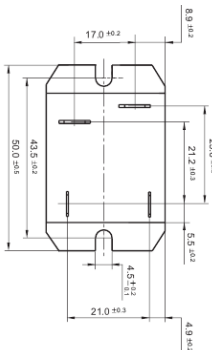
Model		NKB	CQ	CK
Appearance				
Outline Dimension: L x W x H (mm)		19.0 x 15.2 x 15.5	22.0 x 16.0 x 10.9	24.5 x 10.5 x 24.5
Contact	Contact Arrangement	1A, 1C	1A, 1C	1A, 1C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgSnO ₂	AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	10A 277VAC 10A 28VDC	16A 250VAC 16A 30VDC	10A 250VAC 10A 30VDC
	Max. Switching Current	15A	20A	10A
	Max. Switching Voltage	277VAC / 28VDC	277VAC / 30VDC	250VAC / 30VDC
	Max. Switching Power	2770VA / 280W	5000VA / 480W	2500VA / 300W
Coil	Rated Voltage	5~48VDC	5~48VDC	5~48VDC
	Coil Power	360mW	200mW, 4000mW	250mW, 530mW
Insulation Resistance		100MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	750VAC	1000VAC	1000VAC
	Coil and Contacts	1500VAC	2500VAC	4000(3000)VAC
	Contact Sets	-	-	-
Temperature Range		-40 to 105℃	-40 to 105℃	-40 to 70℃
Operate / Release Time		10ms / 5ms	15ms / 5ms	15ms / 5ms
Electrical Endurance		100,000	50,000	50,000
Mechanical Endurance		10,000,000	10,000,000	10,000,000
Weight (Approx.)		10g	9g	12g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL, TUV, CQC	UL, cUL	UL, cUL

Model		CN	CH	TH
Appearance				
Outline Dimension: L x W x H (mm)		24.4 x 12.8 x 24.8	29.0 x 12.7 x 20.0	29.0 x 12.7 x 15.7
Contact	Contact Arrangement	2A	1A, 1C, 2A, 2C	1A, 1B, 1C, 2A, 2B, 2C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgSnO ₂	AgSnO ₂	AgNi
	Contact Ratings (Resistive Load)	20A 250VAC 20A 30VDC	16A 240VAC 16A 30VDC	16A 250VAC
	Max. Switching Current	5A	20A	16A
	Max. Switching Voltage	250VAC / 30VDC	250VAC / 30VDC	440VAC / 300VDC
	Max. Switching Power	1250VA / 150W	4800VA / 480W	4000VA
Coil	Rated Voltage	5~48VDC	3~48VDC	5~110VDC, 24~230VAC
	Coil Power	530mW	240mW, 540mW	400Mw
Insulation Resistance		1000MΩ	100MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1000VAC	1000VAC
	Coil and Contacts	4000VAC	5000VAC	5000VAC
	Contact Sets	-	-	2500VAC
Temperature Range		-40 to 70℃	-40 to 85℃	-40 to 85℃
Operate / Release Time		15ms / 10ms	20ms / 10ms	15ms / 8ms
Electrical Endurance		50,000	100,000	100,000
Mechanical Endurance		1,000,000	10,000,000	10,000,000
Weight (Approx.)		14.5g	14g	13.5g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL	UL, cUL	UL, cUL, VDE

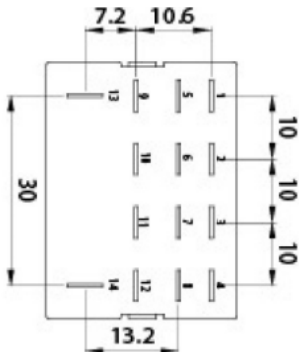
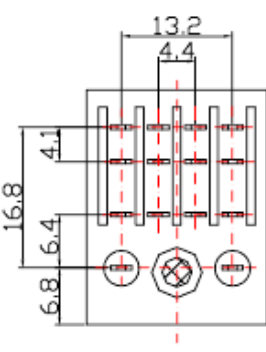
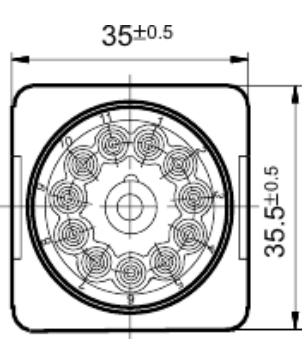
Model		THD	THK	SH
Appearance				
Outline Dimension: L x W x H (mm)		29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7	29 x 12.7 x 26
Contact	Contact Arrangement	1A, 1C	1A, 1C, 2A, 2C	2A, 2C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgNi	AgSnO ₂ , AgNi	AgSnO ₂
	Contact Ratings (Resistive Load)	16A 250VAC	16A 250VAC	16A 250VAC
	Max. Switching Current	16A	16A	16A
	Max. Switching Voltage	440VAC / 300VDC	440VAC	250VAC
	Max. Switching Power	4000VA	4000VA	4000VA
Coil	Rated Voltage	5~48VDC	5~48VDC	3~110VDC
	Coil Power	400mW	400mW, 530mW	800mW, 1400mW
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1000VAC	2500VAC
	Coil and Contacts	5000VAC	5000VAC	5000VAC
	Contact Sets	-	2500VAC	3000VAC
Temperature Range		-40 to 85℃	-40 to 85℃	-40 to 85℃
Operate / Release Time		15m / 8ms	10ms / 5ms	20ms / 5(15)ms
Electrical Endurance		100,000	100,000	30,000
Mechanical Endurance		10,000,000	10,000,000	1000,000
Weight (Approx.)		13.5g	13g	19g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL, VDE	UL, cUL	UL, cUL

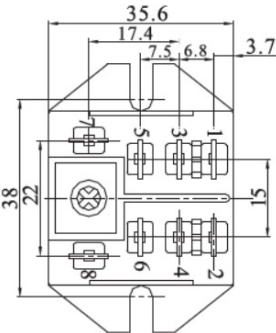
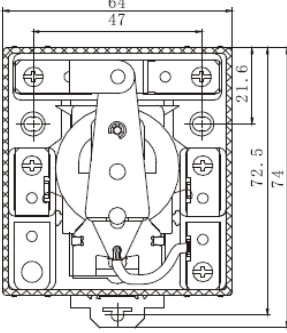
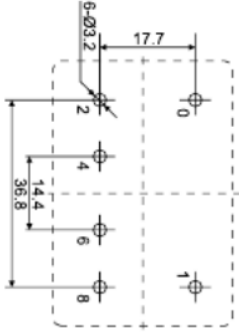
Model		KH	NG	CT
Appearance				
Outline Dimension: L x W x H (mm)		29.0 x 12.6 x 24.8	30.5 x 16.0 x 23.5	32.3 x 27.1 x 20.0
Contact	Contact Arrangement	1A	1A	1A, 1C
	Contact Resistance	50mΩ	100mΩ	50mΩ
	Contact Material	AgSnOInO	AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	16A 250VAC / 30VDC 20A 250VAC	20A 250VAC 2HP 240VAC	30A 240VAC 20A 28VDC
	Max. Switching Current	20A	25A	40A
	Max. Switching Voltage	277VAC / 30VDC	250VAC	277VAC / 28VDC
	Max. Switching Power	4000VA / 480W	6250VA	11080VA / 1200W
Coil	Rated Voltage	5~48VDC	5~48VDC	5~110VDC, 12~277VAC
	Coil Power	540mW	900mW	900mW, 2VA
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1000VAC	1500VAC
	Coil and Contacts	5000VAC	4500VAC	4000(2500)VAC
	Contact Sets	-	1500VAC	-
Temperature Range		-40 to 85℃	-25 to 85℃	-55 to 85(60)℃
Operate / Release Time		20ms / 15ms	20ms / 10ms	15ms / 10ms
Electrical Endurance		100,000	100,000	100,000
Mechanical Endurance		10,000,000	2,000,000	10,000,000
Weight (Approx.)		15g	23g	36g
Lay Out (Bottom View)				
Terminal Type		PCB, PCB & QC	PCB, PCB & QC	PCB
Approved Standards		UL, cUL	UL, cUL	UL, cUL

Model		CT-TMP	NCT	TNC
Appearance				
Outline Dimension: L x W x H (mm)		32.2 x 27.5 x 27.8	32.0 x 27.5 x 19.8	50.0 x 27.2 x 27.8
Contact	Contact Arrangement	1A, 1C	1A, 1B, 1C	1A, 1C
	Contact Resistance	50mΩ	100mΩ	50mΩ
	Contact Material	AgSnO ₂	AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	30A 240VAC 20A 28VDC	40A 277VAC 40A 30VDC	30A 240VAC 20A 28VDC
	Max. Switching Current	40A	40A	40A
	Max. Switching Voltage	277VAC / 28VDC	277VAC / 30VDC	277VAC / 28VDC
	Max. Switching Power	7200VA / 560W	11080VA / 1200W	7200VA / 560W
Coil	Rated Voltage	5~110VDC, 12~277VAC	3~110VDC, 12~240VAC	5~110VDC, 12~277VAC
	Coil Power	900mW, 2VA	930mW, 1.5VA	900mW, 2VA
Insulation Resistance		1000MΩ	100MΩ	1000MΩ
Dielectric Strength	Open Contacts	1500VAC	1800VAC	1500VAC
	Coil and Contacts	2500VAC	4500(2500)VAC	2500VAC
	Contact Sets	-	-	-
Temperature Range		-55 to 85(60)°C	-55 to 70°C	-55 to 85°C
Operate / Release Time		15ms / 10ms	15ms / 10ms	15ms / 10ms
Electrical Endurance		100,000	100,000	100,000
Mechanical Endurance		10,000,000	10,000,000	10,000,000
Weight (Approx.)		36g	24g	36g
Lay Out (Bottom View)				
Terminal Type		PCB & QC	PCB	QC
Approved Standards		UL, cUL	UL, cUL	UL, cUL

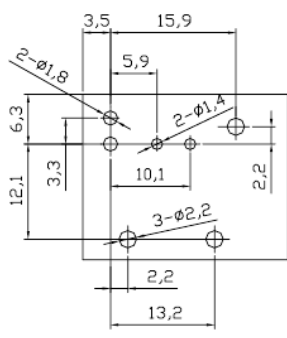
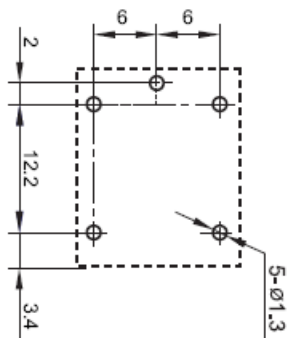
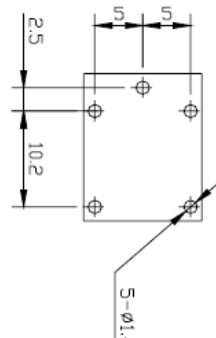
Model		SHP		
Appearance				
Outline Dimension: L x W x H (mm)		35.2 x 32.2 x 24.0		
Contact	Contact Arrangement	1A		
	Contact Resistance	100mΩ		
	Contact Material	AgSnO ₂		
	Contact Ratings (Resistive Load)	30A 250VAC		
	Max. Switching Current	30A		
	Max. Switching Voltage	277VAC		
	Max. Switching Power	7500VA		
Coil	Rated Voltage	5~60VDC		
	Coil Power	1200mW		
Insulation Resistance		1000MΩ		
Dielectric Strength	Open Contacts	1200VAC		
	Coil and Contacts	4000VAC		
	Contact Sets	-		
Temperature Range		-40 to 70 °C		
Operate / Release Time		20ms / 5ms		
Electrical Endurance		50,000		
Mechanical Endurance		5,000,000		
Weight (Approx.)		55g		
Lay Out (Bottom View)				
Terminal Type		PCB, QC		
Approved Standards		UL, cUL		

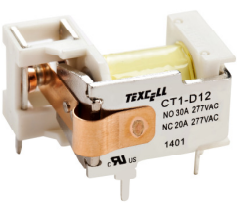
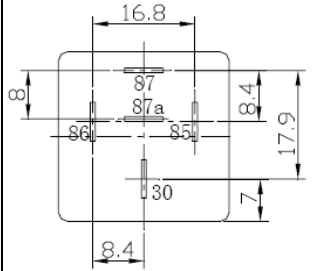
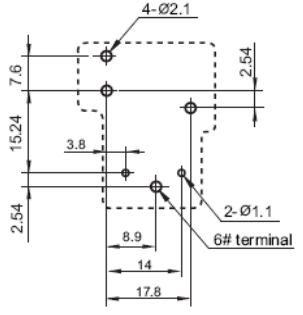
Industrial Relay

Model		EKML	EKMH	KMK
Appearance				
Outline Dimension: L x W x H (mm)		28.0 x 21.5 x 35.0	28.0 x 21.5 x 35.0	35.0 x 35.5 x 55.6
Contact	Contact Arrangement	1C, 2C, 3C, 4C	2C, 3C, 4C	2C, 3C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgSnO ₂	AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	16A 250VAC 16A 30VDC	7A 240VAC 7A 30VDC	10A 250VAC 10A 30VDC
	Max. Switching Current	20A	7A	10A
	Max. Switching Voltage	250VAC / 30VDC	240VAC / 30VDC	250VAC / 30VDC
	Max. Switching Power	4000VA / 480W	1680VA / 210W	2500VA / 300W
Coil	Rated Voltage	5~220VDC, 6~240VAC	5~120VDC, 6~240VAC	6~220VDC, 6~240VAC
	Coil Power	0.9/1.5W, 1.2/2.5/3VA	0.9W, 1.2VA	1.4W, 3VA
Insulation Resistance		100MΩ	100MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1000VAC	1500VAC
	Coil and Contacts	1500VAC	1500VAC	2500VAC
	Contact Sets	-	-	2000VAC
Temperature Range		-40 to 70℃	-40 to 70℃	-40 to 55℃
Operate / Release Time		25(15)ms / 25(10)ms	25ms / 25ms	30ms / 30ms
Electrical Endurance		100,000	100,000	100,000
Mechanical Endurance		10,000,000	1,000,000	10,000,000
Weight (Approx.)		35/50/65g	35g	90g
Lay Out (Bottom View)				
Terminal Type		PCB, Plug-in	PCB, Plug-in	Standard electrontube
Approved Standards		UL, cUL	UL, cUL	UL, cUL

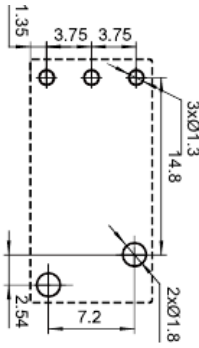
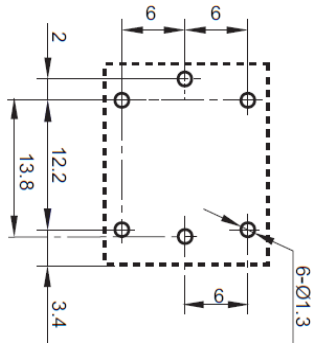
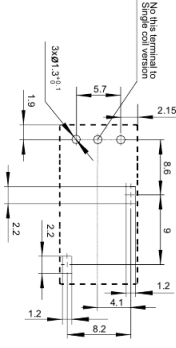
Model		NY	NX	XJ
Appearance				
Outline Dimension: L x W x H (mm)		50.0 x 35.6 x 47.7	74.0 x 64.0 x 56.8	50.5 x 34.0 x 36.5
Contact	Contact Arrangement	1C, 2C	1C, 2A, 2C	1A, 2A. 2A-G
	Contact Resistance	100mΩ	100mΩ	50mΩ
	Contact Material	AgCdO, AgSnO ₂	AgSnO ₂	Ag alloy
	Contact Ratings (Resistive Load)	30A 250VAC 30A 28VDC	100A 250VAC 100A 28VDC	40A 250VAC 40A 30VDC
	Max. Switching Current	30A	100A	40A
	Max. Switching Voltage	250VAC / 28VDC	250VAC / 28VDC	277VAC, 30VDC
	Max. Switching Power	7500VA / 840W	25000VA / 2800W	10000VA / 1200W
Coil	Rated Voltage	6~110VDC, 12~240VAC	6~220VDC, 6~380VAC	6~220VDC, 6~400VAC
	Coil Power	2.5W, 4VA	3W, 10VA	1.9W, 2.5VA
Insulation Resistance		1000MΩ	1000MΩ	100MΩ
Dielectric Strength	Open Contacts	1200VAC	1500VAC	2000VAC
	Coil and Contacts	2500VAC	2500VAC	4000VAC
	Contact Sets	-	2500VAC	2000VAC
Temperature Range		-40 to 70℃	-25 to 55℃	-25 to 55℃
Operate / Release Time		20ms / 15ms	30ms / 30ms	30ms / 30ms
Electrical Endurance		10,000	100,000	100,000
Mechanical Endurance		10,000,000	1,000,000	50,000,000
Weight (Approx.)		70g	240g, 245g, 300g	90g, 120g
Lay Out (Bottom View)				
Terminal Type		QC	Screw Mounting	Plug in, Screw Mounting
Approved Standards		-	-	UL, cUL (Pending)

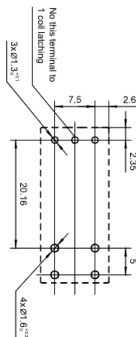
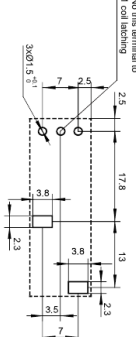
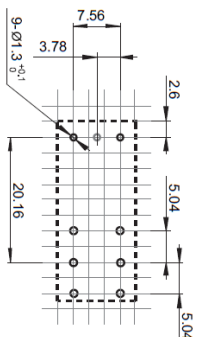
Automotive Relay

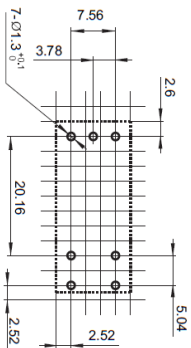
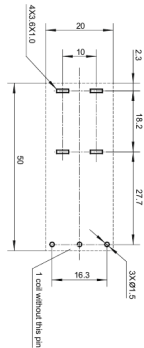
Model		SP	NKBA	KA
Appearance				
Outline Dimension: L x W x H (mm)		26.2 x 21.0 x 21.0	19.0 x 15.2 x 15.0	15.7 x 12.3 x 14.0
Contact	Contact Arrangement	1A, 1C	1A, 1C	1A, 1C
	Contact Resistance	100mΩ	-	100mΩ
	Contact Material	AgSnO ₂	AgNi, AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	NO: 40A 14VDC NC: 30A 14VDC	1A: 15A 13.5VDC 1C (NO): 15A 13.5VDC (NC): 5A 13.5VDC	NO: 20A 14VDC NC: 12A 14VDC 1C: 7A 120VAC
	Max. Switching Current	40A	15A	25A
	Max. Switching Voltage	60VDC	30VDC	250VAC / 16VDC
	Max. Switching Power	560W	-	840VA / 280W
Coil	Rated Voltage	3~24VDC	9~24VDC	6~24VDC
	Coil Power	1.6W, 1.9W	450mW, 640mW, 800mW	600mW, 800mW
Insulation Resistance		100MΩ	100MΩ	100MΩ
Dielectric Strength	Open Contacts	500VAC	750VAC	500VAC
	Coil and Contacts	500VAC	1500VAC	500VAC
	Contact Sets	-	-	-
Temperature Range		-40 °C ~ 85 °C	-40 to 85 °C	-40 to 85 °C
Operate / Release Time		6ms / 4ms	10ms / 10ms	10ms / 5ms
Electrical Endurance		100,000	100,000	100,000
Mechanical Endurance		10,000,000	10,000,000	10,000,000
Weight (Approx.)		21g	10g	6g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		-	-	UL, cUL

Model		HY	CT(without cover)	
Appearance				
Outline Dimension: L x W x H (mm)		28 x 28 x 25	28.3 x 23.3 x 16.3	
Contact	Contact Arrangement	1A, 1B, 1C, 1U	1A, 1C	
	Contact Resistance	100mΩ	50mΩ	
	Contact Material	AgSnO ₂	AgSnO ₂	
	Contact Ratings (Resistive Load)	NO: 40A 14VDC NC: 30A 14VDC 1U: 2x20A 14VDC	30A 240VAC 20A 28VDC	
	Max. Switching Current	40A	40A	
	Max. Switching Voltage	30VDC	277VAC / 28VDC	
	Max. Switching Power	560W	11080VA / 1200W	
Coil	Rated Voltage	5~24VDC	5~110VDC	
	Coil Power	1.6W, 1.9W	900mW	
Insulation Resistance		100MΩ	1000MΩ	
Dielectric Strength	Open Contacts	500VAC	1500VAC	
	Coil and Contacts	750VAC	4000(2500)VAC	
	Contact Sets	-	-	
Temperature Range		-40 to 85℃	-55 to 85℃	
Operate / Release Time		10ms / 10ms	15ms / 10ms	
Electrical Endurance		100,000	100,000	
Mechanical Endurance		10,000,000	10,000,000	
Weight (Approx.)		40g	36g	
Lay Out (Bottom View)				
Terminal Type		PCB, Plug-in	PCB	
Approved Standards		-	UL, cUL	

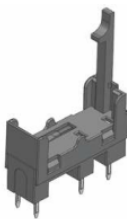
Latching Relay

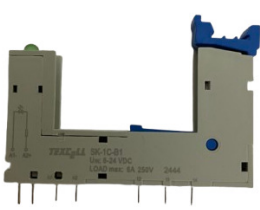
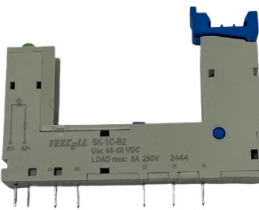
Model		NSL	NKBL	LA
Appearance				
Outline Dimension: L x W x H (mm)		20.5 x 10.2 x 15.7	19.0 x 15.2 x 15.5	22 x 10 x 14
Contact	Contact Arrangement	1A	1A, 1C	1A
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgSnO ₂	AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	10A 250VAC	10A 277VAC 10A 30VDC	16A 277VAC
	Max. Switching Current	10A	15A	20A
	Max. Switching Voltage	277VAC	277VAC / 30VDC	480VAC
	Max. Switching Power	2770VA	2770VA / 300W	5540VA
Coil	Rated Voltage	3~48VDC	3~48VDC	3~48VDC
	Coil Power	250mW, 500mW	0.4W, 0.8W	0.3W, 0.8W
Insulation Resistance		1000MΩ	100MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	750VAC	1000VAC
	Coil and Contacts	2500VAC	2000VAC	5000VAC
	Contact Sets	-	-	-
Temperature Range		-40 to 85℃	-40 to 85℃	-40 to 105℃
Operate / Release Time		10ms / 10ms	8ms / 5ms	10ms / 10ms
Electrical Endurance		100,000	20,000	50,000
Mechanical Endurance		1,000,000	10,000,000	1,000,000
Weight (Approx.)		7g	9g	5.9g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL	UL, cUL	UL, cUL

Model		LC	LD	THL
Appearance				
Outline Dimension: L x W x H (mm)		29.0 x 12.7 x 15.7	35 x 12 x 24	29.0 x 12.7 x 15.7
Contact	Contact Arrangement	2A	1A	1A, 1C, 2A, 2C
	Contact Resistance	100mΩ	100mΩ	100mΩ
	Contact Material	AgSnO ₂	AgSnO ₂	AgSnO ₂
	Contact Ratings (Resistive Load)	20A 277VAC	50A 277VAC	16A 250VAC
	Max. Switching Current	20A	50A	20A
	Max. Switching Voltage	277VAC	480VAC	480VAC / 300VDC
	Max. Switching Power	5540VA	15360VA	4000VA
Coil	Rated Voltage	3~48VDC	3~48VDC	5~24VDC
	Coil Power	0.6W, 0.8W	1.2W, 2W	400mW, 600mW
Insulation Resistance		1000MΩ	1000MΩ	1000MΩ
Dielectric Strength	Open Contacts	1000VAC	1500VAC	1000VAC
	Coil and Contacts	5000VAC	5000VAC	5000VAC
	Contact Sets	2500VAC	-	2500VAC
Temperature Range		-40 to 85℃	-40 to 85℃	-40 to 85℃
Operate / Release Time		15ms / 15ms	15ms / 15ms	10ms / 10ms
Electrical Endurance		20,000	6,000	50,000
Mechanical Endurance		1,000,000	1,000,000	2,000,000
Weight (Approx.)		12.5g	22g	13.5g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL	UL, cUL	UL, cUL, VDE

Model		THLS	AL	
Appearance				
Outline Dimension: L x W x H (mm)		29.0 x 12.7 x 15.7	50 x 20 x 27	
Contact	Contact Arrangement	1A	1A + 1B	
	Contact Resistance	100mΩ	100mΩ	
	Contact Material	W + AgSnO ₂	AgSnO ₂	
	Contact Ratings (Resistive Load)	16A 250VAC	25A 277VAC	
	Max. Switching Current	16A	25A	
	Max. Switching Voltage	480VAC	277VAC	
	Max. Switching Power	4000VA	6925VA	
Coil	Rated Voltage	5~24VDC	5~48VDC	
	Coil Power	400mW, 600mW	1.2W, 2.4W	
Insulation Resistance		1000MΩ	1000MΩ	
Dielectric Strength	Open Contacts	1250VAC	2000VAC	
	Coil and Contacts	5000VAC	5000VAC	
	Contact Sets	-	-	
Temperature Range		-40 to 85℃	-40 to 85℃	
Operate / Release Time		10ms / 10ms	25ms / 25ms	
Electrical Endurance		12,000	30,000	
Mechanical Endurance		2,000,000	600,000	
Weight (Approx.)		13.5g	45g	
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	
Approved Standards		UL, cUL, VDE	UL, cUL	

Relay Socket

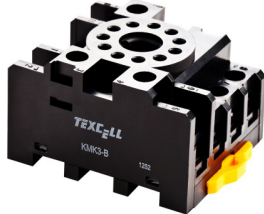
Model	CU socket	NA socket
Appearance		
Part numbers	CU-1A	NAA-1A, NAB-1A

Model	SK socket		
Appearance			
Part numbers	SK-1C-A	SK-1C-B1	SK-1C-B2

Model	TH, THD, CH, SH sockets		EKML sockets
Appearance			
Part numbers	TH-1C	TH-2C	KML2-B

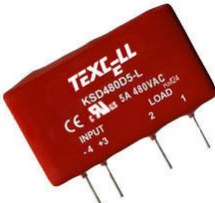
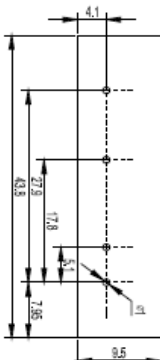
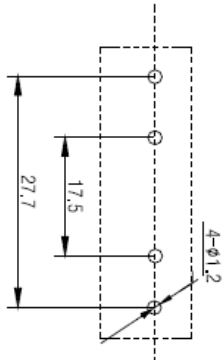
Model	EKML sockets		
Appearance			
Part numbers	KML2-C	KML3-C	KML4-C

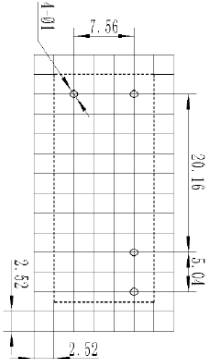
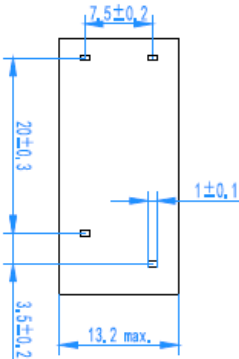
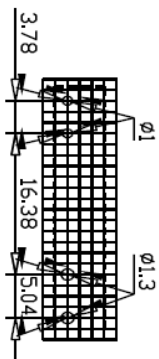
Model	EKM sockets	
Appearance		
Part numbers	KMH2-B, KHM3-B, KMH4-B	KMH2-C, KMH3-C, KMH4-C

Model	KMK sockets		
Appearance			
Part numbers	KMK2-A, KMK3-A	KMK2-B, KMK3-B	KMK2-C, KMK3-C

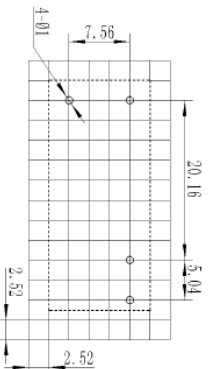
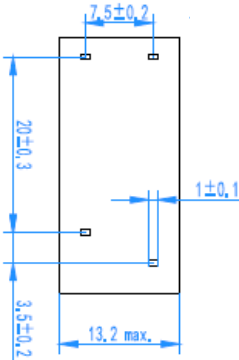
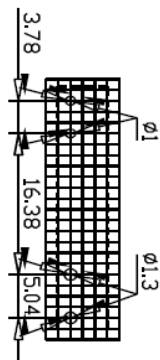
Solid State Relay

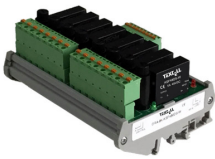
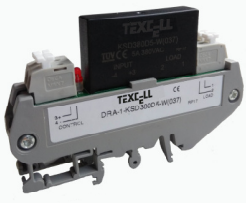
Model		KSA	KSB	KSC
Appearance				
Outline Dimension: L x W x H (mm)		24.0 x 6.5 x 21.2	33.0 x 16.5 x 15.6	20.0 x 5.0 x 17.0
Input	Control Voltage	5, 12, 24VDC	L, H	5, 12, 24VDC
	Max. Input Current	20mA	32, 18mA	25mA
	Status Indications	NO	NO	NO
Output	Load Voltage Range	24-280VAC	24-440VAC	24-280VAC
	Load Current Range	0.1-2A	0.1-3A	0.1-2A
	Max. Surge Current	25A	180A	35A
	Max. Off-state Leakage Current	1.5mA	5mA	1.5mA
	Max. On-state Voltage Drop	1.5Vrms	1.5Vrms	1.5Vrms
	Min. Off-state dv/dt	200V/μs	200V/μs	200V/μs
	Max. Turn-on Time	Random-on: 1ms Zero crossing: 10ms	Random-on: 1ms Zero crossing: 10ms	Random-on: 1ms Zero crossing: 10ms
	Max. Turn-off Time	10ms	10ms	10ms
General	Dielectric Strength	2500VACrms	4000VACrms	2500VACrms
	Insulation Resistance	1000MΩ	-	1000MΩ
	Ambient Operating Temperature Range	-30℃ ~ +80℃	-30℃ ~ +80℃	-30℃ ~ +80℃
	Weight [Typical]	6g	15g	3g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL, CE	UL, cUL, CE	UL, cUL, CE

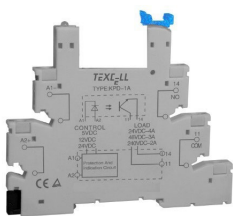
Model		KSD	KSD(037)	KSFA
Appearance				
Outline Dimension: L x W x H (mm)		43.8 x 9.5 x 26.5	44.5 x 10.5 x 26.0	33.0 x 10.8 x 25.6
Input	Control Voltage	L, H, W	L, H, W	5, 12, 24VDC
	Max. Input Current	20, 25, 40mA	25mA	15mA
	Status Indications	NO	NO	NO
Output	Load Voltage Range	48-530VAC	24-530VAC	24-440VAC
	Load Current Range	0.1-5A	0.1-5A	0.1-3A
	Max. Surge Current	200A	250A	100A
	Max. Off-state Leakage Current	1mA	1.5mA	1mA, 3mA
	Max. On-state Voltage Drop	1.5Vrms	1.5Vrms	1.5Vrms
	Min. Off-state dv/dt	200V/μs	200V/μs, 500V/μs	200V/μs
	Max. Turn-on Time	Random-on: 1ms Zero crossing: 1/2AC cycle +1ms	Random-on: 1ms Zero crossing: 10ms	Random-on: 1ms Zero crossing: 10ms
	Max. Turn-off Time	1/2AC cycle +1ms	10ms	10ms
General	Dielectric Strength	4000VACrms	4000VACrms	4000VACrms
	Insulation Resistance	-	-	-
	Ambient Operating Temperature Range	-30℃ ~ +80℃	-30℃ ~ +80℃	-30℃ ~ +80℃
	Weight [Typical]	16g	20g	20g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL, CE	UL, cUL, CE	UL, cUL, CE

Model		KSG	KSG3R	KSMA
Appearance				
Outline Dimension: L x W x H (mm)		29.0 x 12.5 x 15.7	29.2 x 13.2 x 27.5	28.2 x 5.2 x 15.0
Input	Control Voltage	5, 12, 24VDC	5, 12, 24VDC	5, 12, 24, 48, 60VDC
	Max. Input Current	20mA	20mA	14, 16mA
	Status Indications	NO	YES	NO
Output	Load Voltage Range	24-440VAC	24-440VAC	48-280VAC
	Load Current Range	0.1-2A	0.1-3A	0.1-2A
	Max. Surge Current	80A	120A	80A
	Max. Off-state Leakage Current	1.5mA	3mA	1.5mA
	Max. On-state Voltage Drop	1.5Vrms	1.3Vrms	1.5Vrms
	Min. Off-state dv/dt	200V/μs	200V/μs	200V/μs
	Max. Turn-on Time	Random-on: 1ms Zero crossing: 10ms	Random-on: 1ms Zero crossing: 10ms	Random-on: 1ms Zero crossing: 10ms
	Max. Turn-off Time	10ms	10ms	10ms
General	Dielectric Strength	4000VACrms	4000VACrms	2500VACrms
	Insulation Resistance	-	1000MΩ	1000MΩ
	Ambient Operating Temperature Range	-30℃ ~ +80℃	-30℃ ~ +80℃	-30℃ ~ +80℃
	Weight [Typical]	15g	18g	4g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		UL, cUL, CE	UL, cUL, CE	UL, cUL, CE

Model		KSL	KSF	KSCD
Appearance				
Outline Dimension: L x W x H (mm)		44.5 x 10.5 x 26.0	33.0 x 10.8 x 25.6	20.0 x 5.0 x 17.0
Input	Control Voltage	L, H	5, 12, 24VDC, W	5, 12, 24VDC
	Max. Input Current	15mA	15mA	25mA
	Status Indications	NO	NO	NO
Output	Load Voltage Range	0-400VDC	0-100VDC	3-60VDC
	Load Current Range	-	0.1-5A	0.02-4A
	Max. Surge Current	100A	20A	20A
	Max. Off-state Leakage Current	0.1mA	0.1mA	0.1mA
	Max. On-state Voltage Drop	-	1.5VDC	0.5VDC, 1.5VDC
	Min. Off-state dv/dt	-	-	-
	Max. Turn-on Time	1ms	0.5ms	1ms
	Max. Turn-off Time	1ms	1ms	1ms
General	Dielectric Strength	2500VACrms	2500VACrms	2500VACrms
	Insulation Resistance	-	-	1000MΩ
	Ambient Operating Temperature Range	-30℃ ~ +80℃	-30℃ ~ +80℃	-30℃ ~ +80℃
	Weight [Typical]	20g	20g	3g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		CE	CE	CE

Model		KSGD	KG3RD	KSMD
Appearance				
Outline Dimension: L x W x H (mm)		29.0 x 12.5 x 15.7	29.2 x 13.2 x 27.5	28.2 x 5.2 x 15.0
Input	Control Voltage	5, 12, 24VDC	5, 12, 24VDC	5, 12, 24, 48, 60VDC
	Max. Input Current	15mA	20mA	5, 15, 25mA
	Status Indications	NO	YES	NO
Output	Load Voltage Range	0-57.6VDC	3-100VDC	3-58VDC
	Load Current Range	0.02-5A	0.1-2A	0.02-4A
	Max. Surge Current	96A	8A	48A
	Max. Off-state Leakage Current	0.1mA	0.1mA	100μA
	Max. On-state Voltage Drop	0.2VDC	1.5VDC	1.5VDC
	Min. Off-state dv/dt	-	-	-
	Max. Turn-on Time	300μs	0.5ms	300μs
	Max. Turn-off Time	300μs	0.5ms	300μs
General	Dielectric Strength	2500VACrms	4000VACrms	2500VACrms
	Insulation Resistance	-	-	1000MΩ
	Ambient Operating Temperature Range	-30℃ ~ +80℃	-30℃ ~ +80℃	-30℃ ~ +80℃
	Weight [Typical]	15g	18g	4g
Lay Out (Bottom View)				
Terminal Type		PCB	PCB	PCB
Approved Standards		CE	CE	UL, cUL, CE

Model	DRA (Module Series)	
Appearance		
Applicable SSR type	KSD, KSF, KSL	
Approval Standards	CE	

Model	KPD-1A	KPD-3A	KPD-4A
Appearance			
Applicable SSR type	KSMA, KSMD	KSG, KSGD	KSG3R, KG3RD
Approval Standards	CE	CE	CE