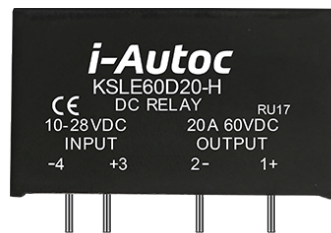


Product Description

- ◆ Load Current: 0.1A~20A
- ◆ Rated Voltage: 60VDC, 100VDC, 200VDC, 400VDC
- ◆ Control Voltage: 3~10VDC, 10~28VDC
- ◆ Dielectric Strength: 2500Vrms or 4000Vrms
- ◆ RoHS Compliant
- ◆ Transistor Output or MOSFET Output⁽¹⁾



Note: (1) KSLE60D3 series are transistor output, others are MOSFET output.



Product Selection

KSLE	60	D	20	-L	B	(XXX)
KSLE Series	Load Voltage 60: 0~50VDC 100: 0~75VDC 200: 0~125VDC 400: 0~300VDC	DC Control	Load Current 3: 3Amp 5: 5Amp 10: 10Amp 20: 20Amp	Control Voltage L:3~10VDC H:10~28VDC	Output Type B: Normally Closed Output None: Normally Open Output	Customized Code

Available Part Numbers

Control Mode	3A	5A	10A	20A
L	KSLE60D3-L	KSLE200D5-L	KSLE60D10-L	KSLE60D20-L
	KSLE400D3-L		KSLE100D10-L	
	KSLE60D3-LB			
H	KSLE60D3-H	KSLE200D5-H	KSLE60D10-H	KSLE60D20-H
	KSLE400D3-H		KSLE100D10-H	
	KSLE60D3-HB			

Technical Specifications

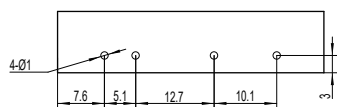
Input Specifications (Ta=25°C)	Condition	Symbol	KSLE..D..-L			KSLE..D..-H			KSLE..D..-LB			KSLE..D..-HB			Unit
			Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
Control Voltage		U_c	3	5	10	10	24	28	3	5	10	10	24	28	VDC
Input Current (Typ)	@ U_c	I_c	3.27	6.91	16	4.31	11.18	13.14	3.27	6.91	16	4.31	11.18	13.14	mA
Must Turn-off Voltage		$U_{c\ off}$	1			1			3			10			VDC
Input Impedance				550			2040			550			2040		Ω

Input Specifications (Ta=25°C)	Condition	Symbol	Model	Min	Typ	Max	Unit
Load Voltage		U_e	KSLE60D(10/20) Series	0		50	VDC
			KSLE100D Series	0		75	VDC
			KSLE200D Series	0		125	VDC
			KSLE400D Series	0		300	VDC
			KSLE60D3 Series	3		50	VDC
Load Current		I_e	3	0.002		3	A
			5	0.002		5	A
			10	0.002		10	A
			20	0.002		20	A

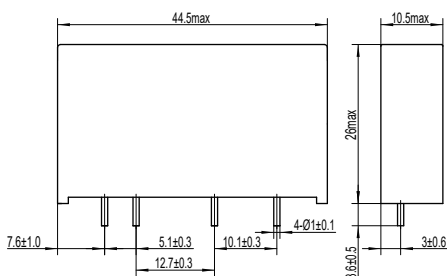
Input Specifications (Ta=25°C)	Condition	Symbol	Model	Min	Typ	Max	Unit
Turn-On Time		t _{on}				1	ms
Turn-Off Time		t _{off}				1	ms
Off-State Leakage Current	@ Rated Load Voltage	I _{lk}	Transistor Output MOSFE Output			1 0.1	mA
On-State Voltage Drop	@ Rated Load Current	U _d	KSLE60D3 Series			1.5	VDC
On-State Resistance	@Tj=25°C	R _d	KSLE400D3 Series		200		mΩ
			KSLE200D5 Series		60		mΩ
			KSLE100D10 Series		11		mΩ
			KSLE60D10 Series		10		mΩ
			KSLE60D20 Series		4		mΩ
	@Tj=125°C		KSLE400D3 Series			400	mΩ
			KSLE200D5 Series			150	mΩ
			KSLE100D10 Series			38	mΩ
			KSLE60D10 Series			30	mΩ
			KSLE60D20 Series			10	mΩ
TVS Breakdown Voltage	@1mA		KSLE60D... Series	64.6	68	71.4	VDC
			KSLE100D... Series	105	110	116	VDC
			KSLE200D... Series	190	200	210	VDC
			KSLE400D... Series	418	440	462	VDC
MOSFET Transient Overvoltage		U _p	KSLE60D(10/20) Series		100		Vpk
			KSLE100D10 Series		150		Vpk
			KSLE200D5 Series		250		Vpk
			KSLE400D3 Series		650		Vpk
Transistor Maximum Transient Overvoltage			KSLE60D3 Series		80		Vpk
Non-repetitive Surge Current	@10ms	I _{TSM}	KSLE400D3 Series		15		A
			KSLE200D5 Series		25		A
			KSLE(100/60)D10 Series		50		A
			KSLE60D20 Series		100		A
	@1s		KSLE60D3 Series		5		A

Input Specifications (Ta=25°C)	Condition	Symbol	Model	Min	Typ	Max	Unit
Dielectric Strength	50/60Hz, Input/Output	V_{ISO}	Transistor Output MOSFET Output		4000 2500		Vrms Vrms
Insulation Resistance	@500VDC	R_{ISO}			1000		MΩ
Operating Temperature		T_{OPR}		-30		+80	°C
Storage Temperature		T_{SPR}		-30		+100	°C
Weight					20		g

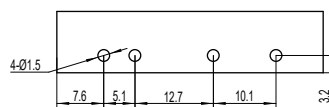
Outline Dimensions



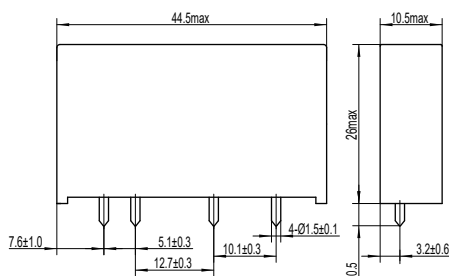
The bottom view



KSLE...D(3/5/10) Series

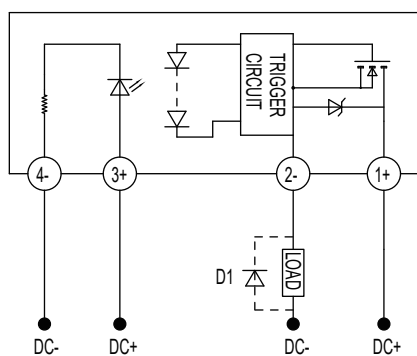


The bottom view



KSLE...D20 Series

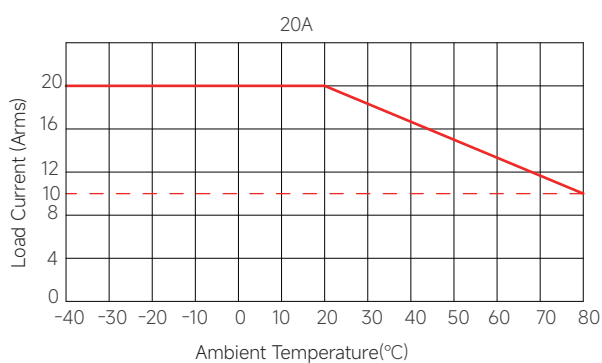
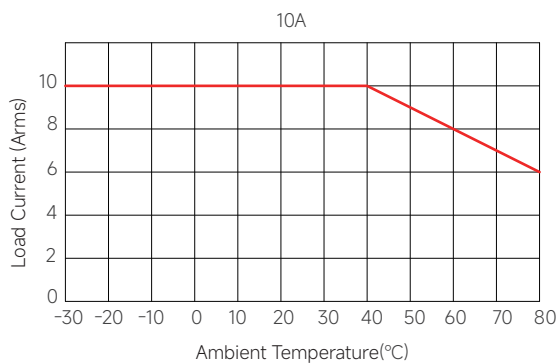
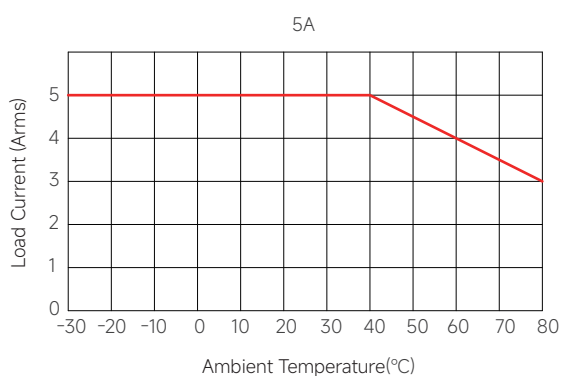
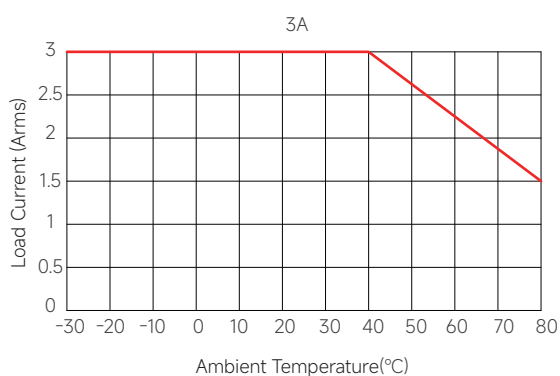
Wiring Diagram



Note: When the relay is used for controlling inductive loads, please ensure that a suppression circuit is used, as shown in the drawing above. Both load terminals are inversely paralleled with a flywheel diode (D1).

D1: Fast Recovery Diode

Thermal Derating Curve



General Notes

1. Soldering must be finished within 10 seconds at 260°C, or finished within 5 seconds at 350°C. Otherwise, it may cause damage to the relay.
2. Terminal polarity must be observed. Otherwise, it may cause damage to the relay.
3. When ambient temperature is above 25°C, the maximum load current decreases. See thermal derating curve.
4. Capacitive load will produce very high surge current at the moment of conduction, which may lead to the damage of solid state relay due to the excessive surge current. Therefore, if the actual load is capacitive, or the load has paralleled large capacitance, it is strongly recommended that NTC should be connected in series in the load loop to suppress surge current in order to avoid damage to the product



Warnings

1. The product's side panels may be hot, allow the product to cool before touching.
2. Disconnect all power before installing or working with this equipment.
3. Verify all connections and replace all covers before turning on power.