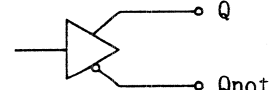
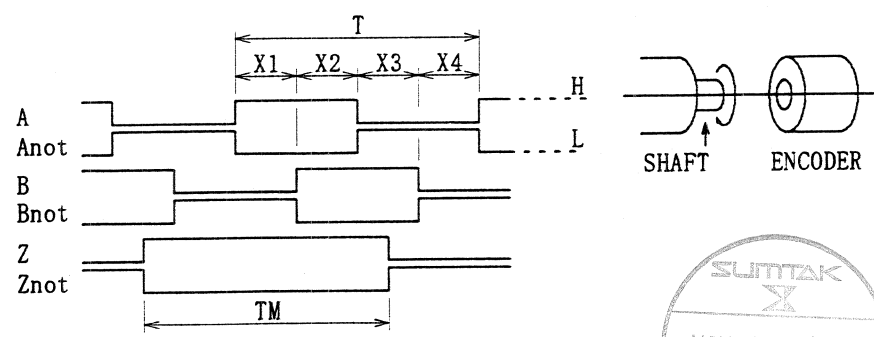




TITLE		REV.	REVISIONS	DATE	REVISED	APPROVED	
SPECIFICATIONS [INCREMENTAL BUILT-IN ENCODER]							
ZSP-3779	MODEL	LHE - 458 - xxx		OUTLINE DIMENSIONS:		OUTLINES:	
	① TYPE	② FUNCTION No.	③ PULSE PER REVOLUTION	SEE DRAWING #2-A254761A		SHAFT DIA.:8mm	
				PULSE TABLE		CABLE LENGTH:350mm	
				U,V,W NONE		LINE DRIVER OUTPUT	
			A,B,Z 500,1000,2000,2048,2500P/R		MOUNTING HOLE:PCD=40mm		
MECHANICAL SPECIFICATIONS				CABLE AND CONNECTION			
SLEW SPEED	5000	min <sup>-1</sup>	AT +25°C		CABLE :2SP-0070		
STARTING TORQUE	≤0.005	N·m			LENGTH :350 +50 mm		
SHAFT ANGULAR ACCELERATION	10000	rad/s <sup>2</sup>			DIA. :φ5.1 mm		
MOMENT OF INERTIA	1.4×10 <sup>-6</sup>	kg·m <sup>2</sup>			WIRE :0.18mm <sup>2</sup>		
MASS(APPROX)	0.08	kg	EXCEPT CABLE		SHEATH :SOFT P.V.C.		
SPECIFICATIONS OF MOUNTING SHAFT:SEE DRAWING #2-A254761A				COLOR	SIGNAL		
*1 IN EARLY STAGE,STARTING TORQUE IS NOT STABLE,BUT IT IS NOT PROBLEM FOR PERFORMANCE.				WHITE	+5V(Vcc)		
				BLACK	0V		
ENVIRONMENTAL SPECIFICATIONS				RED	A PHASE		
OPERATING TEMPERATURE	0~+85	°C	NO CONDENSATION *2		PINK Anot PHASE		
STORAGE TEMPERATURE	-20~+85	°C	NO CONDENSATION		OLIVE B PHASE		
VIBRATION RESISTANCE *3	49	m/s <sup>2</sup>	10~200Hz,2 HOURS EACH X,Y,Z		BLUE Bnot PHASE		
SHOCK RESISTANCE *3	980	m/s <sup>2</sup>	6ms,2 TIMES EACH X,Y,Z		YELLOW Z PHASE		
CONSTRUCTION	OPEN	MUST USE OUTER CLOSED COVER.		ORANGE	Znot PHASE		
*2 IT IS AMBIENT TEMPERATURE. HIGH LIMIT OF OPERATING TEMPERATURE IS +90°C AT SIDE OF BODY AND +95°C AT THE SURFACE OF LINE DRIVER IC.							
*3 IT IS TEST CONDITION, NOT FOR CONTINUOUS RATING.							
ELECTRICAL SPECIFICATIONS							
OUTPUT	LINE DRIVER OUTPUT:26C31(EIA:RS-422A)						
SUPPLY VOLTAGE(Vcc)	DC5±0.25	V	RIPPLE LESS THAN 5% (WITH NOISE)		SHIELD ≠ BODY		
CURRENT REQUIREMENT	≤50	mA	NO LOAD,MAX.		OUTPUT CIRCUIT		
OUTPUT LEVEL(H)	≥2.4	V	Vcc=4.75V,IoH=-20mA				
OUTPUT LEVEL(L)	≤0.5	V	Vcc=4.75V,IoL=+20mA				
SINK CURRENT	±13	mA	Ta=0~+80°C *4				
SINK CURRENT	±8	mA	Ta=0~+85°C *4				
RISE TIME,FALL TIME(TYP.)	≤100	ns	CABLE 1m END		26C31 OR EQUIVALENT		
FREQUENCY RESPONSE	0~200	kHz	A,B PHASE		SYMMETRY(A,B):		
INSULATION RESISTANCE	≥20	MΩ	AT DC250V MEGGER(CIRCUIT-BODY)		X1+X2=0.5T±0.1T		
BY-PASS CAPACITOR	0.22	μF	100WV(0V-BODY)		X2+X3=0.5T±0.1T		
BY-PASS CAPACITOR	0.22	μF	100WV(Vcc-BODY)		PHASE SHIFT(A,B):		
NOTE(*4): THERE IS A POSSIBILITY THAT THE ENCODER IS DAMAGED IF SINK CURRENT IS OVER THIS SPEC AT THIS TEMPERATURE RANGE.						Xn ≥ 0.15T(n=1,2,3,4)	
WAVE FORMS: (*) CW ROTATION AS VIEWED TO ENCODER SHAFT							
							
							
							
LIMITED WARRANTY SUMTAK WARRANTS ITS PRODUCTS AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP UNDER NORMAL USE AND SERVICE FOR A PERIOD OF ONE(1) YEAR FROM THE DATE OF ORIGINAL SHIPMENT.							
PHOTO	DRAWN BY		CHECKED BY	APPROVED BY	DRAWING No.		
	Oct. 31. 02		Nov. 1. 02	Nov. 1. 02	2SP-3779		
WARE.H	M. Masaki		G. Nakamura	K. Yamaguchi			

