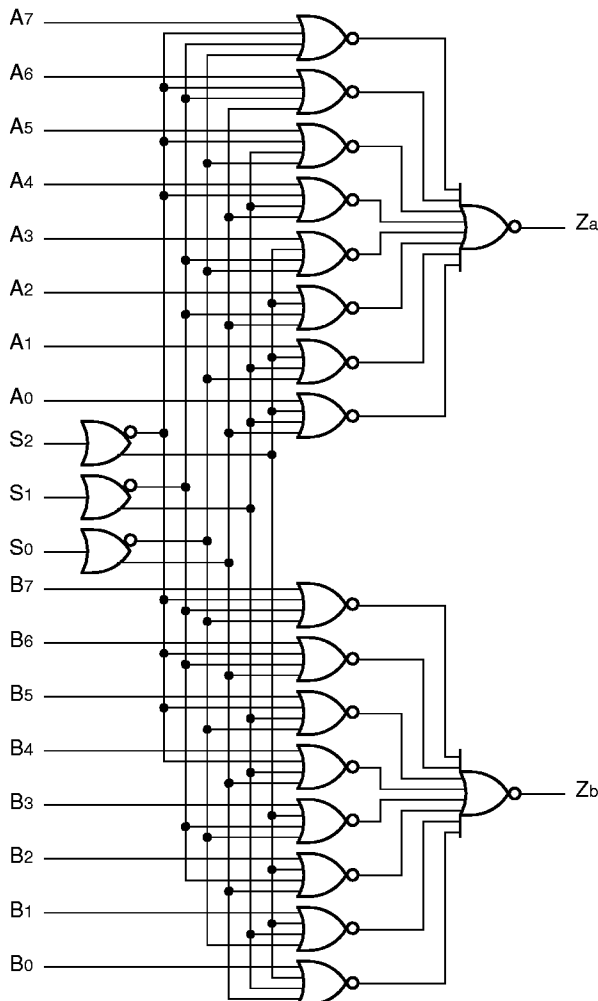


FEATURES

- Max. propagation delay of 900ps
- IEE min. of -92mA
- Industry standard 100K ECL levels
- Extended supply voltage option:
VEE = -4.2V to -5.5V
- Voltage and temperature compensation for improved noise immunity
- Internal 75KΩ input pull-down resistors
- 60% faster than National 300K at lower power
- Function and pinout compatible with National and Signetics F100K
- ESD protection of 2000V
- Available in 24-pin CERDIP, 24-pin CERPACK and 28-pin PLCC packages

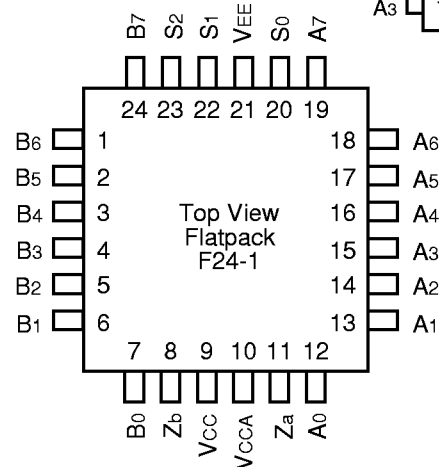
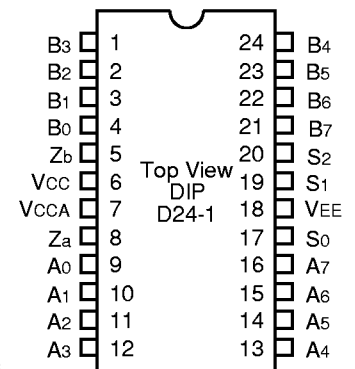
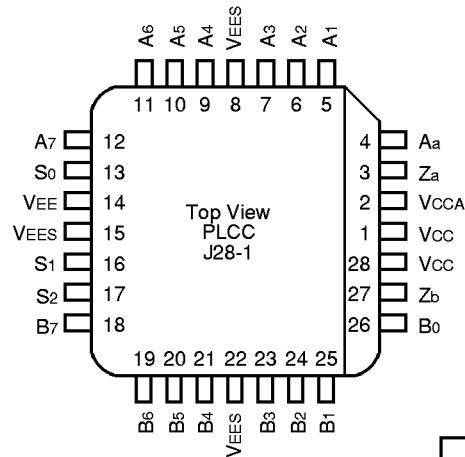
BLOCK DIAGRAM



DESCRIPTION

The SY100S363 is a dual 8-input multiplexer designed for use in new, high-performance ECL systems. The three Data Select inputs (S₀, S₁, S₂) determine the bits from each of the inputs (A_n, B_n) that will be passed on through the two outputs. The same bit will be selected from the two groups of 8 inputs. The inputs on this device have 75KΩ pull-down resistors.

PIN CONFIGURATIONS



PIN NAMES

Pin	Function
S ₀ – S ₂	Data Select Inputs
A ₀ – A ₇	A Data Inputs
B ₀ – B ₇	B Data Inputs
Z _a , Z _b	Data Outputs
VEES	VEE Substrate
VCCA	VCCO for ECL Outputs

TRUTH TABLE⁽¹⁾

Select			Inputs								Outputs
S ₂	S ₁	S ₀	Data								Z _a /Z _b
			A ₇ /B ₇	A ₆ /B ₆	A ₅ /B ₅	A ₄ /B ₄	A ₃ /B ₃	A ₂ /B ₂	A ₁ /B ₁	A ₀ /B ₀	
L	L	L								L	L
L	L	L								H	H
L	L	H							L		L
L	L	H							H		H
L	H	L						L			L
L	H	L						H			H
L	H	H					L				L
L	H	H					H				H
H	L	L				L					L
H	L	L				H					H
H	L	H			L						L
H	L	H			H						H
H	H	L		L							L
H	H	L		H							H
H	H	H	L								L
H	H	H	H								H

NOTE:

- H = HIGH Voltage Level
L = LOW Voltage Level
Blank = X = Don't Care

DC ELECTRICAL CHARACTERISTICS

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified; $V_{CC} = V_{CCA} = GND$

Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I _{IH}	Input HIGH Current	—	—	200	μA	V _{IN} = V _{IH} (Max.)
	S _n A _n , B _n	—	—	200		
I _{EE}	Power Supply Current	-92	-66	-45	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

CERDIP

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified; $V_{CC} = V_{CCA} = GND$

Symbol	Parameter	TA = 0°C		TA = +25°C		TA = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t _{PLH} t _{PHL}	Propagation Delay A ₀ – A ₇ , B ₀ – B ₇ to Output	300	1100	300	1100	300	1100	ps	
t _{PLH} t _{PHL}	Propagation Delay S ₀ – S ₂ to Output	400	1500	400	1500	400	1500	ps	
t _{TLH} t _{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

CERPACK

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified; $V_{CC} = V_{CCA} = GND$

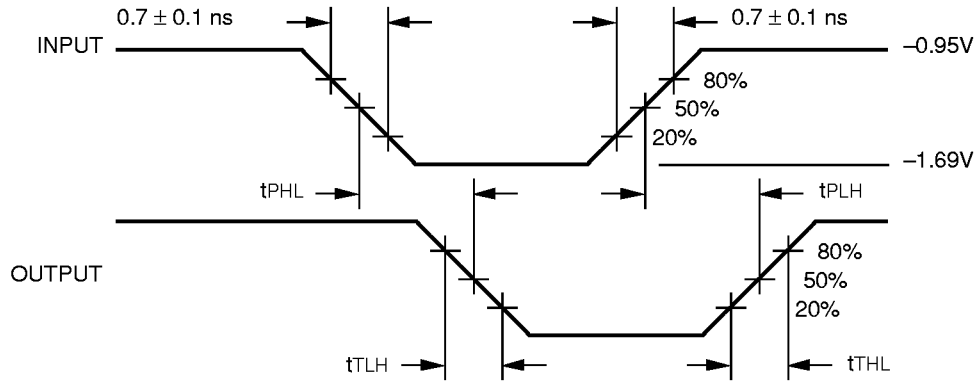
Symbol	Parameter	TA = 0°C		TA = +25°C		TA = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t _{PLH} t _{PHL}	Propagation Delay A ₀ – A ₇ , B ₀ – B ₇ to Output	300	1000	300	1000	300	1000	ps	
t _{PLH} t _{PHL}	Propagation Delay S ₀ – S ₂ to Output	400	1400	400	1400	400	1400	ps	
t _{TLH} t _{THL}	Transition Time 20% to 80%, 80% to 20%	300	1000	300	1000	300	1000	ps	

PLCC

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified; $V_{CC} = V_{CCA} = GND$

Symbol	Parameter	TA = 0°C		TA = +25°C		TA = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t _{PLH} t _{PHL}	Propagation Delay A ₀ – A ₇ , B ₀ – B ₇ to Output	300	900	300	900	300	900	ps	
t _{PLH} t _{PHL}	Propagation Delay S ₀ – S ₂ to Output	400	1300	400	1300	400	1300	ps	
t _{TLH} t _{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

TIMING DIAGRAM



Propagation Delay and Transition Times

NOTE:

V_{EE} = -4.2V to -5.5V unless otherwise specified; V_{CC} = V_{CCA} = GND

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY100S363DC	D24-1	Commercial
SY100S363FC	F24-1	Commercial
SY100S363JC	J28-1	Commercial
SY100S363JCTR	J28-1	Commercial

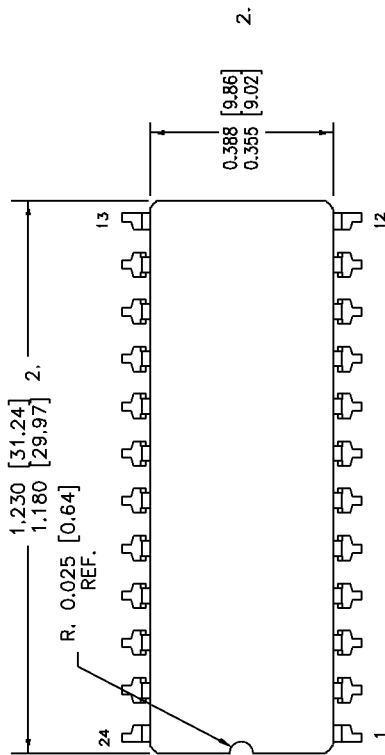
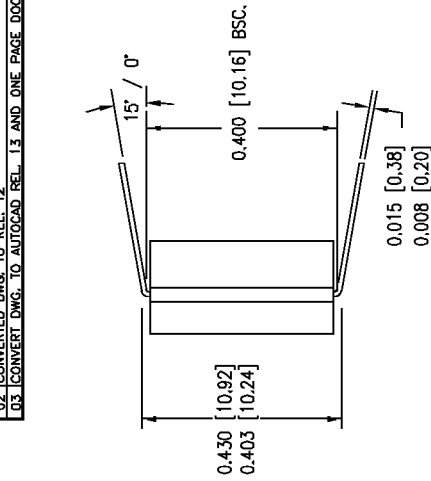
24 LEAD CERDIP (D24-1)

FILE/REV #: PD0003A03

PD/0003/ASCORP

PAGE 1 OF 1

REV.	REVISION DESCRIPTION	DATE
01	CONVERT DWG. TO DESIGNER VERSION 4.0 FORMAT.	12/30/93
02	CONVERTED DWG. TO REL. 12	03/15/96
03	CONVERT DWG. TO AUTOCAD REL. 1.3 AND ONE PAGE DOCUMENT.	02/18/98



NOTES:

1. DIMENSIONS ARE IN INCHES[MM].
- THIS DIMENSION INCLUDES GLASS PROTRUSION AND CAP TO BASE ALIGNMENT TOLERANCES.



3250 SCOTT BOULEVARD
SANTA CLARA CA 95054
TEL: 408-980-9191
FAX: 408-567-7878

APPROVALS	DATE	APPROVALS	DATE	SIZE	SCALE
ORIGINATOR: FERMIN G. LURRITA	02/23/98	QUALITY: MARSHALL WILDER		A	N/A
CHK'D: WON CHANG		DOCUMENT CONTROL: BRIAN SANFILIPPO			REVISION
RELEASE DATE:					03

24 LEAD CERDIP (400" WIDE)
PACKAGE OUTLINE

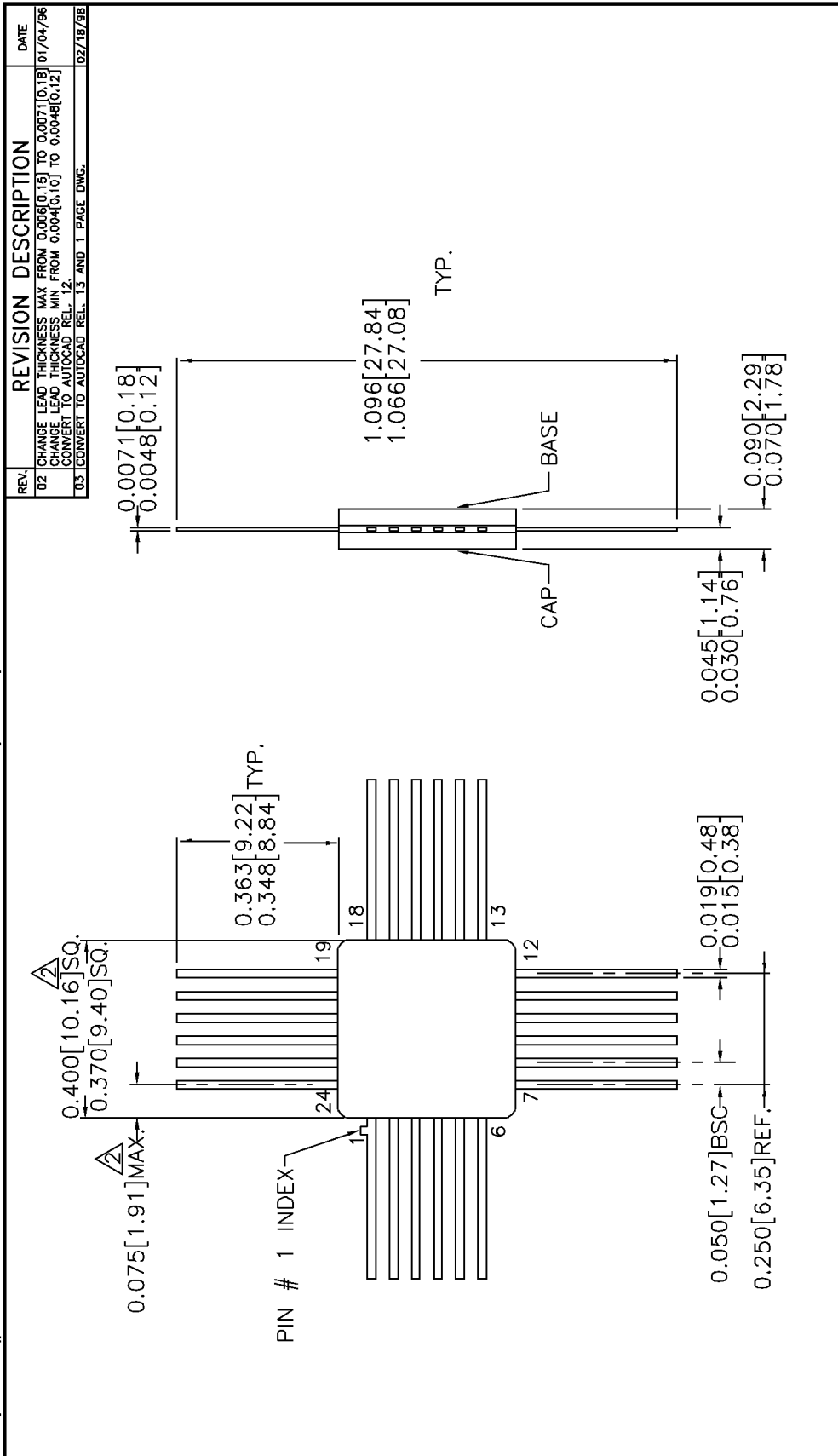
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24 LEAD CERPACK (F24-1)

FILE/REV #: PD0006A03

PD/0006/ASCORP

PAGE 1 OF 1



REV.	REVISION DESCRIPTION	DATE
02	CHANGE LEAD THICKNESS MAX FROM 0.006[0.15] TO 0.0071[0.18]	01/04/96
	CHANGE LEAD THICKNESS MIN FROM 0.004[0.10] TO 0.0048[0.12]	
03	CONVERT TO AUTOCAD REL. 12	
	CONVERT TO AUTOCAD REL. 13 AND 1 PAGE DWG.	02/18/98

SYNERGY
SEMICONDUCTOR

3250 SCOTT BOULEVARD
SANTA CLARA CA 95054
TEL: 408-980-9191
FAX: 408-587-7878

24 LEAD CERPACK
PACKAGE OUTLINE

APPROVALS	DATE	APPROVALS	DATE	SIZE
ORIGINATOR: FERNUN G. URRUTIA	02/23/98	QUALITY: MARSHALL WILDER		A
CHK'D: WON CHANG		DOCUMENT CONTROL: BRIAN SANFILIPPO		
RELEASE DATE:				

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SCALE: N/A
REVISION: 03

- NOTES:
1. DIMENSIONS ARE IN INCHES[MM].
 2. THIS DIMENSION INCLUDES GLASS PROTRUSION AND CAP TO BASE ALIGNMENT TOLERANCES.
 3. DIMENSIONS SHOWN ARE MAX/MIN, WHERE NOTED.

28 LEAD PLASTIC LEADED CHIP CARRIER (J28-1)

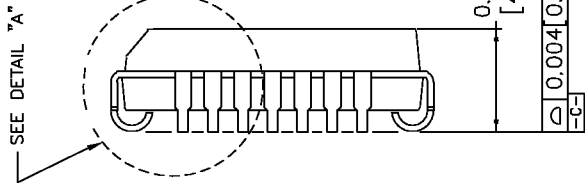
FILE/REV #: PD0008A03

PD/0008/ASCORP

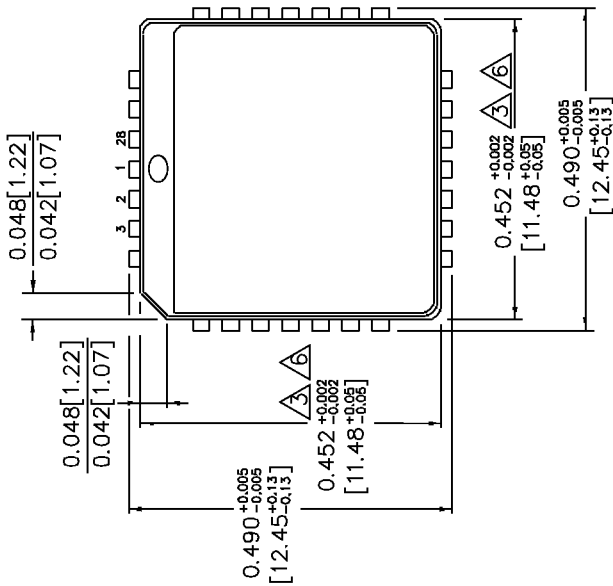
PAGE 1 OF 1

REV.	REVISION DESCRIPTION	DATE
01	CONVERT TO DESIGNER VERSION A.0. FORMAT AND COVER PAGE TO SPEC. CHANGE BODY WIDTH DIMENSION FROM 0.450[11.43] TO 0.443[11.25]. TYPOGRAPHICAL ERROR.	08/18/94
02	CONVERT DWG FROM DESIGNER TO AUTOCAD REL. 12. REFERENCE AMKOR DWG. NO. 34653 REV. 00.	02/22/96
03	CONVERT DWG TO REL. 13 AND ONE PAGE DOCUMENT.	02/18/98

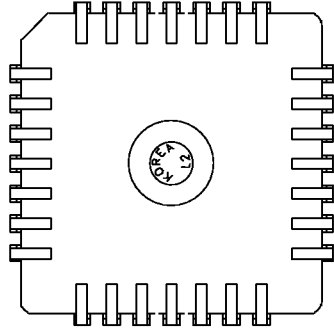
SIDE VIEW



TOP VIEW

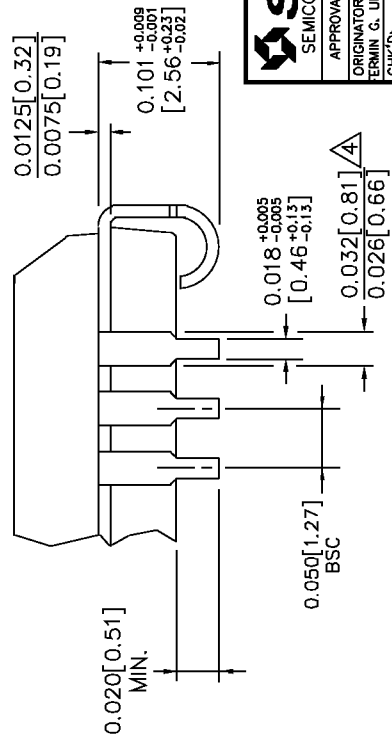


BOTTOM VIEW



NOTES:

1. DIMENSIONS ARE IN INCHES [MM].
2. CONTROLLING DIMENSION: INCHES.
3. DIMENSION DOES NOT INCLUDE MOLD FLASH OR PROTRUSIONS, EITHER OF WHICH SHALL NOT EXCEED 0.008 [0.203].
4. LEAD DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION.
5. MAXIMUM AND MINIMUM SPECIFICATIONS ARE INDICATED AS FOLLOWS: MAX/MIN
6. PACKAGE TOP DIMENSION MAY BE SLIGHTLY SMALLER THAN BOTTOM DIMENSION.



3250 SCOTT BOULEVARD
SANTA CLARA, CA. 95054
TEL: 408-960-9191
FAX: 408-367-7878

APPROVALS	DATE	APPROVALS	DATE	SIZE	28 LEAD PLCC	PACKAGE OUTLINE
ORIGINATOR: ERMIN G. URRUTIA	02/23/98	QUALITY: MARSHALL WILDER		A		
CHK'D: WON CHANG		DOCUMENT CONTROL: BRIAN SANFILIPPO				
RELEASE DATE:						

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SCALE: N/A
REVISION: 03