

SHEET INDEX

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SYMBOL

GROUP CHECK DETECTORS & CURRENT SOURCES

ELEMENT IDENT

TERM.	MOD	FUNCT	TERM.	LOC
+13		I	019, 118	2B2
CS1T			018	2C2
CS2T			010	2D2
CS3T			110	2E2
CS4T			111	2F2
CS5T			012	2F2
CS6T			112	2G2
CS7T			013	2G2
CS8T		I	113	2H2
CK1		B	204	2C6
CK2			303	2D6
CK3			202	2E6
CK4			302	2E6
CK5			203	2F6
CK6			300	2F6
CK7			201	2G6
CK8			301	2F6
CS1			117	2G6
CS2			017	2D6
CS3			116	2E6
CS4			016	2E6
CS5			115	2F6
CS6			015	2F6
CS7			114	2G6
CS8			014	2G6
LR3A		B	205	2H6
LR3B		B	304	2H6
+5		P	000	2H5
GRD		G	319	2H4

SYMBOL

118	18V	CS1	117
019		CK1	204
018	CS1T	CS2	017
010	CS2T	CK2	303
110	CS3T	CS3	116
111	CS4T	CK3	202
012	CS5T	CS4	016
112	CS6T	CK4	302
013	CS7T	CS5	115
113	CS8T	CK5	203
		CK6	011
		CS6	300
		CK6	114
		CS7	201
		CK7	014
		CS8	301
		CK8	205
		LR3A	304
		LR3B	

FC219
GROUP CHECK
DETECTOR &
CURRENT SOURCES
A

RECORD OF CHANGES

DWG ISS	PREV FURN	STD	MFR DISC	SEE NOTE

NOTES:

- GROUND RETURN
- UNLESS OTHERWISE SPECIFIED:
RESISTANCE VALUES ARE IN OHMS
CAPACITANCE VALUES ARE IN MICROFARADS
VALUES PRECEDED BY THE SYMBO + (PLUS)
OR - (MINUS) ARE IN VOLTS.

- BATTERY AND GROUND TERMINALS FOR THIS CIRCUIT PACK ARE AS FOLLOWS:

FUNCTION	TERMINAL
+5	000
+18	019
+18	118
GRD	319

- CURRENT DRAIN:

5V @ 10 mA
18V @ 320 mA

- CLOSEST RECOMMENDED HORIZONTAL MOUNTING CENTERS IS 0.500 INCH.

IC CODE	GRD TERM.	BAT. TERM.
502R		

SYSTEM USED ON	DESIGN CONTROL
NO. 2 ESS	IH
NO. 3 ESS	IH

DWG ISSUE	DATE	BY	APP'D
1	2-25-75	AS	LEG
2A	9-17-75	LR	HRH
3A	4-6-76	LR	RFG

SHEET INDEX NOTES

- A CHANGED OR NEW SHEET WILL BE ASSIGNED THE SAME ISSUE NUMBER AS SHEET 1.
- THE ISSUE NUMBER OF SHEET 1 IS RECOGNIZED AS THE ISSUE NUMBER OF THE WHOLE DRAWING.

SUPPORTING INFORMATION

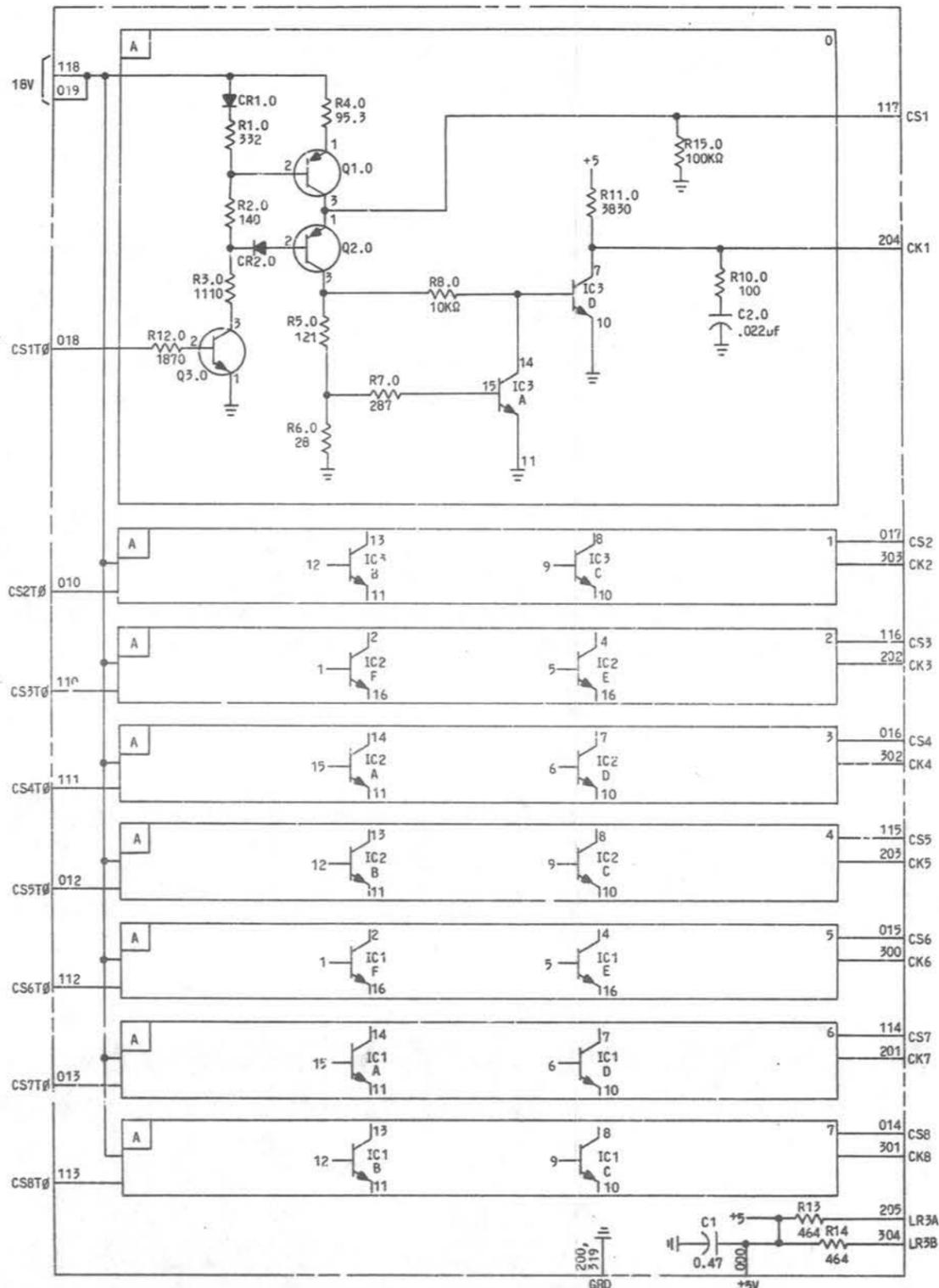
CATEGORY	NO.
CONNECTOR ON FRAME	9A7A, C, E
CIRCUIT PACK INFORMATION	
ACCEPTABLE SERIES NUMBER	6

NOTICE-- NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT.

1799	AT&TCO STANDARD
FC219 CIRCUIT PACK GROUP CHECK DETECTORS AND CURRENT SOURCES CIRCUIT	CPS-FC219 3 SHEETS
BELL TELEPHONE LABORATORIES INCORPORATED	6S

ISSUE 3A

GROUP CHECK DETECTORS AND CURRENT SOURCES



511 J820
less 511
Greater Than 820
0.05V
+4.0V or greater

COMPONENT LIST

INTEGRATED CIRCUIT (SEE SD-2HC03-01-D18)

IC DESIG CODE ELFM ID	IC1 502R		IC2 502R		IC3 502R		IC DESIG CODE ELFM ID
	DESIG	SH LOC	DESIG	SH LOC	DESIG	SH LOC	
A	Q1	2G3	Q1	2E3	Q1	2C4	A
B	Q2	2H3	Q2	2F3	Q2	2D3	B
C	Q3	2H4	Q3	2F4	Q3	2D4	C
D	Q4	2G4	Q4	2E4	Q4	2C4	D
E	Q5	2F4	Q5	2E4	SPARE		E
F	Q6	2F3	Q6	2E3	SPARE		F
G							G
H							H

CAPACITOR

DESIG	CODE
C1	KS-19774 L5, 0.47/KS-20736 L1, 0.47/KS-19774 L6, 0.47
[8]C2.0-C2.7	KS-19774 L5, .022

DICED

DESIG	CODE
[8]CR1.0-CR1.7	458D
[8]CR2.0-CR2.7	458D

RESISTOR

DESIG	CODE
[8]R1.0-R1.7	257A, 332
[8]R2.0-R2.7	257A, 1.4
[8]R3.0-R3.7	257A, 1.10
[8]R4.0-R4.7	257A, 45.3
[8]R5.0-R5.7	257A, 121
[8]R6.0-R6.7	257A, 28
[8]R7.0-R7.7	257A, 287
[8]R8.0-R8.7	257A, 10,000
[8]R9.0-R10.7	257A, 100
[8]R11.0-R11.7	257A, 3830
[8]R12.0-R12.7	257A, 1870
[2]R13, R14	257A, 464
[8]R15.0-R15.7	KS-20201 L1, 100KΩ

TRANSISTOR

DESIG	CODE
[8]Q1.0-Q1.7	51F
[8]Q2.0-Q2.7	51F
[8]Q3.0-Q3.7	66S

CIRCUIT DESCRIPTION

FUNCTION

THIS CIRCUIT PACK PROVIDES EIGHT CURRENT SOURCES AND EIGHT CHECK CIRCUITS.

DETAILED DESCRIPTION

THIS CIRCUIT PACK CONTAINS 8 IDENTICAL CIRCUITS. WHEN THE CS LEAD IS TERMINATED WITH AN IMPEDANCE BETWEEN 511 AND 820 OHMS, THE CK LEAD WILL BE AT A LEVEL OF 0.5 VOLTS OR LESS. WHEN THE CS LEAD IS TERMINATED WITH AN IMPEDANCE OF LESS THAN 348 OHMS OR MORE THAN 1800 OHMS, THE CK LEAD WILL BE AT +4.0 VOLTS OR HIGHER. THE CS LEAD IS CAPABLE OF SUPPLYING 35 MILLIAMPERES. THE CK LEAD IS CAPABLE OF SINKING AT LEAST 7.3 MILLIAMPERES. CURRENT IS SUPPLIED ONLY WHEN THE INPUT LEAD (CS_TO) IS AT 1.5V OR HIGHER.

LEAD DESIGNATION

NAME	MEANING
18V	18 VOLT SUPPLY TO THE CIRCUIT PACK
CK1-CK8	CURRENT SOURCE CHECK OUTPUT 1 - CURRENT SOURCE CHECK OUTPUT 8
CS1-CS8	CURRENT SOURCE 1 OUTPUT - CURRENT SOURCE 8 OUTPUT
CS1TO-CS8TO	CURRENT SOURCE 1 TURN ON CURRENT SOURCE 8 TURN ON

ISSUE
3A

FC219 CIRCUIT PACK

BELL TELEPHONE LABORATORIES
INCORPORATED

2
6S

CPS-FC219
SHEET 3
PRINTED IN U.S.A.