

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE
NUMBER: 05-6VF-2253 -X

SUBSYSTEM NAME: EPD&C - LIFE SUPPORT: SMOKE & FIRE (06-2)
REVISION: 1 11/10/87

PART DATA

	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
LRU	: FWD LCA 1	MC450-0054-0001
LRU	: FWD LCA 1	MC450-0054-0002
LRU	: FWD LCA 2	MC450-0055-0001
LRU	: FWD LCA 2	MC450-0055-0002
LRU	: FWD LCA 3	MC450-0056-0001
LRU	: FWD LCA 3	MC450-0056-0002
SRU	: DIODE	JANTXV1N5551

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
DIODE, ISOLATION (3 AMP), FIRE SUPPR "ARM" CMD, PRE-FLIGHT

REFERENCE DESIGNATORS: 81V76A16A28CR8
82V76A17A28CR12
83V76A18A28CR8

QUANTITY OF LIKE ITEMS: 3
ONE PER FLCA-1,2,3

FUNCTION:
PROVIDES CIRCUIT ISOLATION FOR THE REMOTE 'ARM' CIRCUIT FROM THE ON-BOARD ARM CIRCUIT FOR THE FIRE SUPPRESSANT PYROTECHNIC INITIATOR CONTROLLER (PIC).

FAILURE MODES EFFECTS ANALYSIS (FMEA) --CIL HARDWARE

NUMBER: 05-6VF-2253-X

- APPROVALS -

PAE MANAGER : K. L. PRESTON
PRODUCT ASSURANCE ENGR : T. K. KIMURA
DESIGN ENGINEERING : D. D. SOVEREIGN
BNA SSM : R. L. PHAN

K.L. Preston 1-23-98
T. Kimura 1-22-98
D. D. Sovereign
R. Phan

SHUTTLE CRITICAL ITEMS LIST - ORBITER

SYSTEM : EPD&C - SMK DET/FIRE SUP FMEA NO 09-6VF-2253 -1 REV: 01/29
 ASSEMBLY : FLCA-1,2,3
 P/N RI : JANTXVIN5551
 P/N VENDOR:
 QUANTITY : 3
 : ONE PER FLCA-1,2,3

VEHICLE	102	103	104
EFFECTIVITY:	X	X	X
PHASE(S):	PL X LO	OO	DO 15

PREPARED BY: *J.B.* J BROWN
 DES REL GE
 APPROVED BY: *[Signature]*
 DES REL GE
 REDUNDANCY SCREEN: A-PASS B-N/A C-PASS
 APPROVED BY (NASA):
 SSM *[Signature]*
 REL *[Signature]*
 GE *[Signature]*
 Rel *[Signature]*

ITEM:
 DIODE, ISOLATION (3 AMP), FIRE SUPPR "ARM" CMD, PRE-FLIGHT.

FUNCTION:
 PROVIDES CIRCUIT ISOLATION FOR THE REMOTE 'ARM' CIRCUIT FROM THE ON-BOARD ARM CIRCUIT FOR THE FIRE SUPPRESSANT PYROTECHNIC INITIATOR CONTROLLER (PIC). 82V73A16 CR, 82V73A17 CR, 83V73A18 CR.

FAILURE MODE:
 OPEN, FAILS TO CONDUCT.

MODE(S):
 STRUCTURAL FAILURE, ELECTRICAL STRESS, THERMAL STRESS, PROCESSING ANOMALY

EFFECT(S) ON:
 (A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE
 (A,B) LOSS OF GROUND ARM COMMAND TO ARM PIC FOR SUPPRESSANT RELEASE INTO THE ASSOCIATED AVIONICS BAY.
 (C,D) NO EFFECT, FIRST FAILURE.
 (E) FUNCTIONAL CRITICALITY EFFECT - POSSIBLE LOSS OF CREW/VEHICLE. LOSS OF THE ONBOARD AND GROUND "ARM" COMMANDS WILL RESULT IN LOSS OF THE CAPABILITY TO DISCHARGE FIRE SUPPRESSANT IN ASSOCIATED AVIONICS BAY. SCREEN B IS "N/A" BECAUSE GROUND "ARM" CIRCUIT IS IN STANDBY.

DISPOSITION & RATIONALE:
 (A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE
 -D) DISPOSITION AND RATIONALE
 REFER TO APPENDIX F, ITEM NO. 4 - DIODE.

GROUND TURNAROUND TEST
 PIC CIRCUIT TESTS PERFORMED PRIOR TO EACH FLIGHT.

OPERATIONAL USE
 CREW SHOULD USE ONBOARD "ARM" AND "FIRE" COMMAND TO ACTIVATE FIRE SUPPRESSANT FOR THE ASSOCIATED AVIONICS BAY.