



## Phoenix Power Connectors

*-Up to 40 amps*

### Product Description



With a 40 amp max current rating, Phoenix's Power Connectors are designed to meet increasing system power requirements that are driving the need for improved current density.

Contacts are screw-machined for precision, high-reliability, and high-current applications.

### Features

- Single power connector accommodates a maximum of 40 amps based on a 20°C temperature-rise with zero airflow.
- Secure, push-on snap facet for easy and quick mating.
- Available in board-to-board and cable-to-board configurations.
- SMT, cable, and thru-hole designs.
- Pick-and-Place and tape-and-reel versions.
- Custom cable assemblies also available.

### Applications

- Power amplifiers.
- High-wattage power supplies.
- Servers.
- Storage enclosures.
- Communications equipment.
- Redundant power distribution systems.
- Medical.

The Phoenix Company of Chicago, Inc. • 555 Pond Drive, Wood Dale, IL 60191 USA

Tel: (630) 595-2300 • Fax: (630) 595-6579

[www.phoenixofchicago.com](http://www.phoenixofchicago.com)



The Phoenix Company of Chicago and its affiliates have manufacturing facilities in the United States, Mexico, and China.

# Phoenix Power Connectors

-Up to 40 amps

## Materials

**Bodies: Plug and Optional Receptacle- Brass Per ASTM-B-16.**

**Retaining Ring- Beryllium Copper Per ASTM-B-196.**

**Receptacle- Beryllium Copper Per ASTM-B-196.**

**Plating: Gold Per Mil-G-45204.**

**Copper Per Mil-C-14550.**

**Nickel Per QQ-N-290.**

**\*Tin Lead Plating-T20.**

\*Applies to 40 amp

## Finishes

**Plug Body & Receptacle Fingers- .000030 Min. Gold Over .000050/.000100**

**Nickel, Over Copper Flash, .000050 Max.**

**Optional Receptacle Bodies- .000200/.000230 Solder Plate Over .000050 Max.**

**Copper Plate.**

## Mating Characteristics

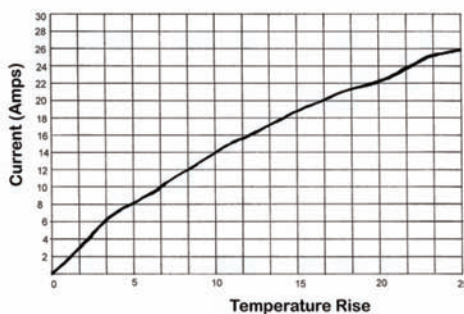
**Insertion Force: 8 Lbs. Max.**

**Withdrawal Force: 2 Lbs. Min. After 200 Cycles.**

**Mating Cycles: 200 Min.**

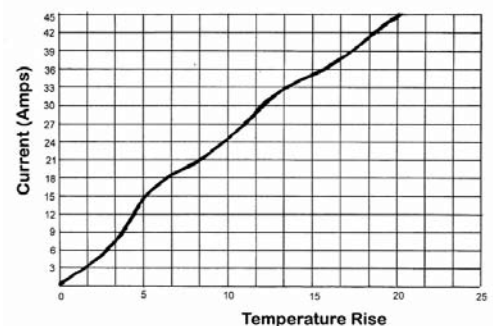
## Electrical

20 Amp Contacts



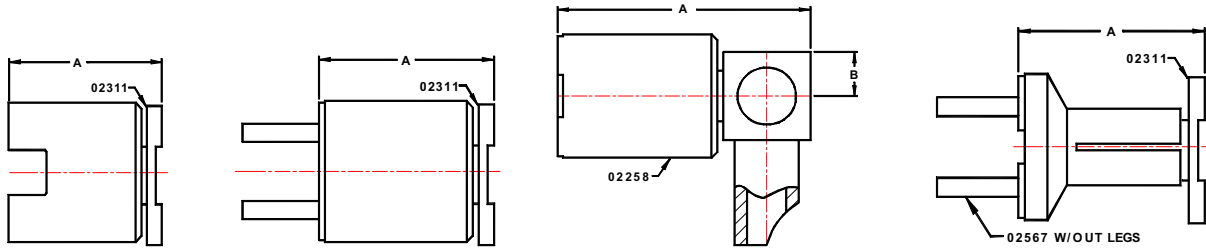
\*Charts represent highest temperature reading from samples. Connectors tested and measured individually at ambient temperature. Charts show degrees in Centigrade.

40 Amp Contacts



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**POWER CONNECTOR SMT, THRU-HOLE, RT. ANGLE DESIGN / .090 PLUG DIAMETER /**



**FIG.1**

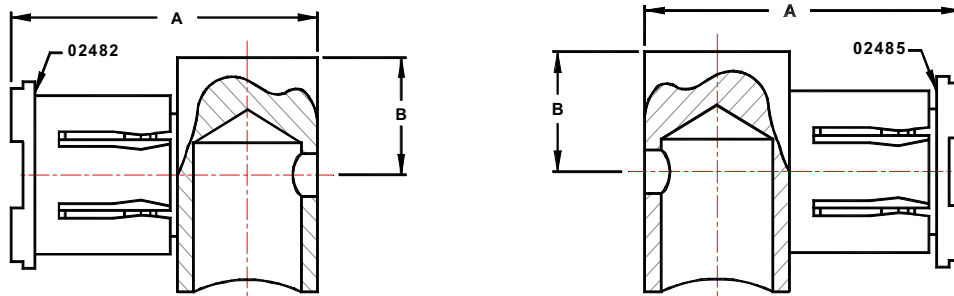
**FIG. 2**

**FIG.3**

**FIG.4**

PART #	AMPS	AWG	A	B	REF.	DESCRIPTION	MOUNT.	TERM.
02311	10	-	.263(5.99)	-	FIG.1	SMT PLUG		
02567	20	-	.288(7.31)	-	FIG.4	SMT JACK	4	
02568	20	-	.288(7.31)	-	FIG.4	THRU-HOLE JACK	2	
02259	10	-	.308(7.82)	-	FIG.2	THRU-HOLE JACK	2	
02252	10	16	.435(11.05)	.078(1.98)	FIG.3	RT. ∠ PLUG		SOLDER
02250	10	16	.435(11.05)	.078(1.98)	FIG.3	RT. ∠ PLUG		CRIMP
02278	20	12	.435(11.05)	.078(1.98)	FIG.3	RT. ∠ PLUG		SOLDER
02312	10	14	.263(5.99)	-	FIG.1	RT. ∠ JACK		SOLDER

**POWER CONNECTOR RT. ANGLE DESIGN / .142 PLUG DIAMETER/**

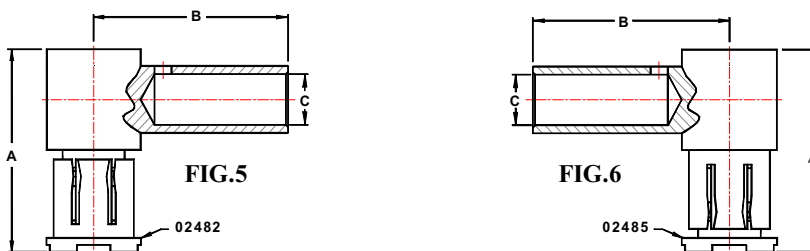


**FIG. 4**

**FIG. 5**

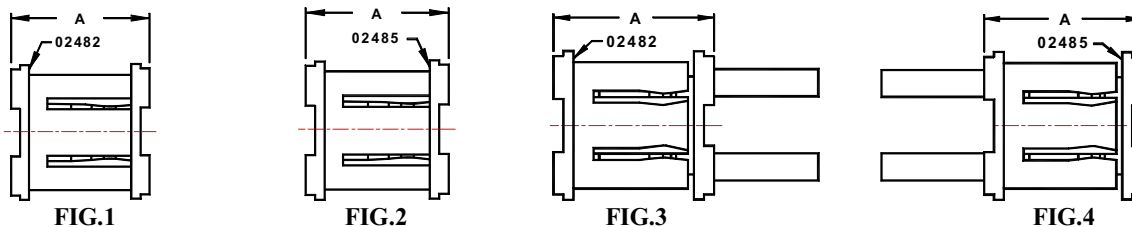
PART #	AMPS	AWG	A	B	REF.	DESCRIPTION
02493	10	16	.353(8.97)	.141(3.58)	FIG. 4	RT.< PLUG SOLDER
02569	20	12	.385(9.78)	.141(3.58)	FIG. 4	RT.< PLUG SOLDER
02511	30	10	.385(9.78)	.141(3.58)	FIG. 4	RT.<PLUG SOLDER
02570	40	8	.427(10.85)	.141(3.58)	FIG. 4	RT.<PLUG SOLDER
02492	10	18-20	.344(8.74)	.141(3.58)	FIG. 5	RT.<JACK, SOLDER
02541	20	12	.376(9.55)	.109(2.77)	FIG. 5	RT.<JACK, SOLDER
02510	30	10	.376(9.55)	.141(3.58)	FIG. 5	RT.<JACK SOLDER
02571	40	8	.418(10.62)	.141(3.58)	FIG. 5	RT.<JACK SOLDER

### POWER CONNECTOR SMT & RT. ANGLE CRIMP DESIGN



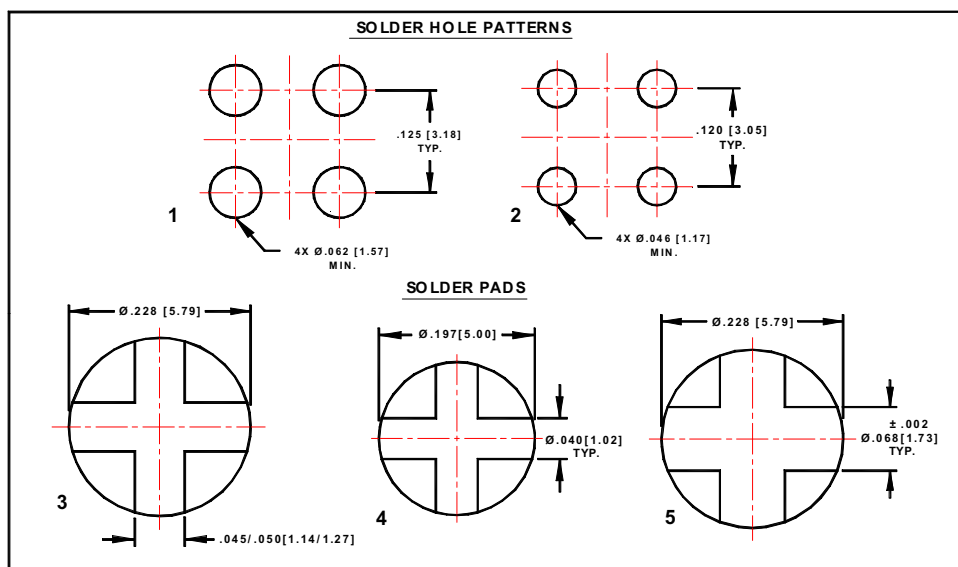
PART #	AMPS	AWG	A	B	C	REF.	DESCRIPTION
02554	40	8	.430(10.92)	.450(11.43)	∅.188(4.78)	FIG. 5	RT.< PLUG, CRIMP
02555	20	12/14	.430(10.92)	.450(11.43)	∅.110(2.79)	FIG. 5	RT.< PLUG, CRIMP
02556	10	16/18	.430(10.92)	.450(11.43)	∅.067(1.70)	FIG. 5	RT.< PLUG, CRIMP
02557	30	10	.430(10.92)	.450(11.43)	∅.136(3.45)	FIG. 5	RT.< PLUG, CRIMP
02558	40	8	.427(10.85)	.450(11.43)	∅.188(4.78)	FIG. 6	RT.< JACK, CRIMP
02559	20	12/14	.427(10.85)	.450(11.43)	∅.110(2.79)	FIG. 6	RT.< JACK, CRIMP
02560	10	16/18	.427(10.85)	.450(11.43)	∅.067(1.70)	FIG. 6	RT.< JACK, CRIMP
02561	30	10	.427(10.85)	.450(11.43)	∅.136(3.45)	FIG. 6	RT.< JACK, CRIMP

### POWER CONNECTOR SMT & THRU-HOLE DESIGN



PART #	AMPS	A	REF.	DESCRIPTION	MOUNTING	PACKING
02484	40	.235(5.97)	FIG.1	SMT PLUG	5	BULK
02485	40	.235(5.97)	FIG.1	SMT PLUG	5	T & R
02482	40	.235(5.97)	FIG.2	SMT JACK	5	BULK
02483	40	.235(5.97)	FIG.2	SMT JACK	5	T & R
02508	40	.235(5.97)	FIG.3	THRU-HOLE PLUG	1	BULK
02509	40	.235(5.97)	FIG.3	THRU-HOLE PLUG	1	T & R
02461	40	.235(5.97)	FIG.4	THRU-HOLE JACK	1	BULK
02462	40	.235(5.97)	FIG.4	THRU-HOLE JACK	1	T & R

### RECOMMENDED MOUNTING HOLES & SOLDER PADS



INTERFACE DESIGN STANDARD			REV	DESCRIPTION	DATE	APPR
IDS-02258			A	PER ECN 6872	01/21/03	HN
PAGE 1 OF 2	DATE: 01/22/03		B	PER ECN 6899	02/14/03	HN
DRAWN: MY	APPROVED: HN					
		22 GREAT HILL ROAD, NAUGATUCK, CT. 06770				
		PHONE: (203) 729-9090 FAX: (203) 723-1794				

DESCRIPTION: 02258 SERIES - 20 AMP SNAP ON POWER CONTACTS

### MECHANICAL

#### MATERIALS

BODIES: PLUG AND OPTIONAL RECEPTACLE - BRASS PER ASTM-B-16.  
 RECEPTACLE - BERYLLIUM COPPER PER ASTM-B-196.  
 RETAINING RING - BERYLLIUM COPPER PER ASTM-B-196.

#### PLATING:

GOLD PER MIL-G-45204.  
 COPPER PER MIL-C-14550.  
 NICKEL PER QQ-N-290.

### FINISHES

PLUG BODY & RECEPTACLE FINGER'S - .000030 MIN. GOLD OVER .000050/.000100 NICKEL,  
 OVER COPPER FLASH, .000050 MAX.  
 OPTIONAL RECEPTACLE BODIES -  
 .000200/.000230 SOLDER PLATE OVER .000050 MAX. COPPER PLATE

### MATING CHARACTERISTICS

INSERTION FORCE: 8 LBS. MAX.  
 WITHDRAWAL FORCE: 2 LBS. MIN. AFTER 200 CYCLES  
 MATING CYCLES: 200 MIN.

### ELECTRICALS

RATED CURRENT: TO 20 AMPS  
 CONTACT RESISANCE: 3 MILLIOHNS MAX.

### ENVIRONMENTAL

TEMPERATURE: -65°C TO +165°C  
 TEMPERATURE CYCLING: -40°C TO +85°C, 10 CYCLES, 30  
 MIN. DWELL, 20 SECONDS.  
 STATIC HUMIDITY: 192 HOURS AT +50°C/90-95% HUMIDITY.  
 SOLDERABILITY: PROVIDE 95% SOLDER COVERAGE ON ALL  
 SOLDER TERMINATIONS.  
 VIBRATION RANDOM: 0.04G/Hz, 10-2000Hz, 6G's, 15 MINUTES PER  
 PLANE OR SINUSOIDAL: 10-15 Hz, 15G's, 30 MIN. PER PLANE,  
 MAX. DISCONTINUITY 1 MICROSECOND.  
 MECHANICAL SHOCK: 50G's, 1/2 SINE PULSE FOR 11 MILLISECONDS,  
 3 SHOCKS PER PLANE (18 TOTALSHOCKS). MAX. DISCONTINUITY 1 MICROSECOND.

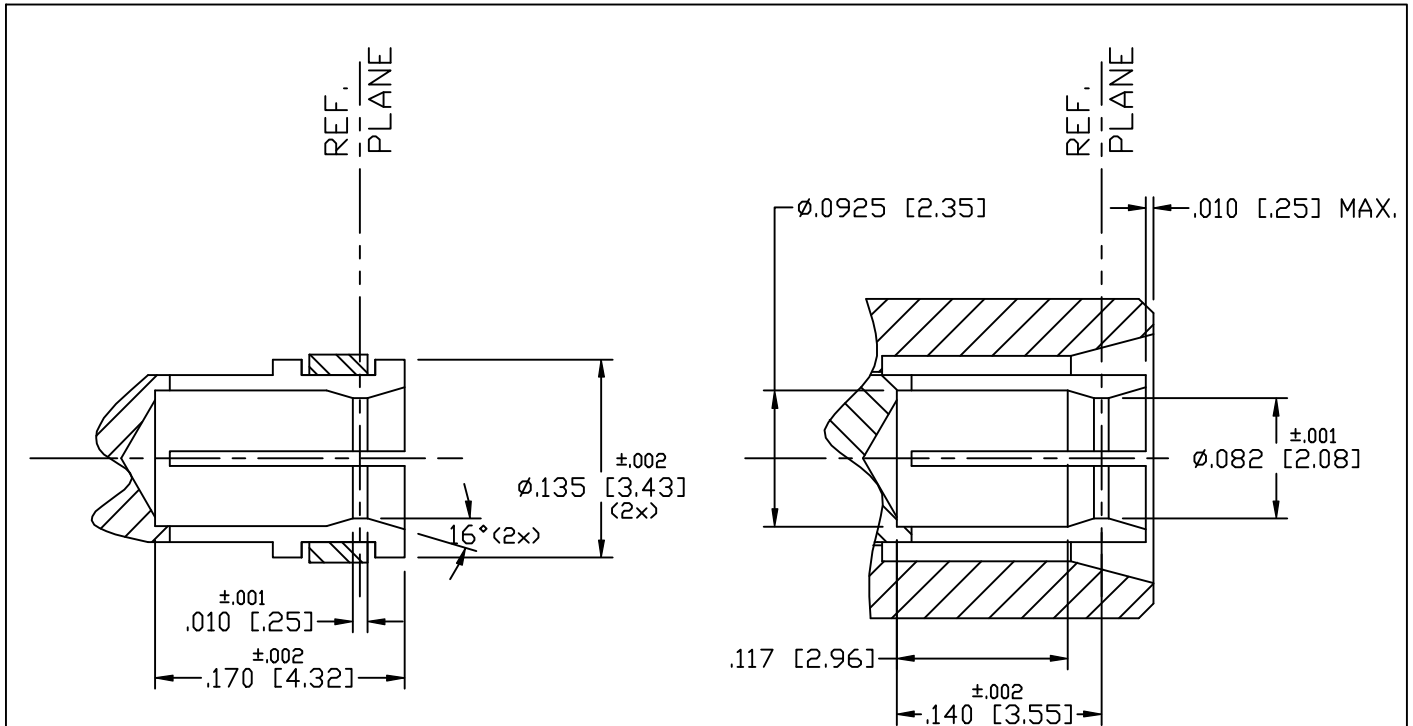
INTERFACE DESIGN STANDARD	
IDS-02258	
PAGE 2 OF 2	DATE: 01/23/03
DRAWN: MY	APPROVED: HN

**PALCO**  
**CONNECTOR**

22 GREAT HILL ROAD, NAUGATUCK, CT. 06770  
PHONE: (203) 729-9090 FAX: (203) 723-1794

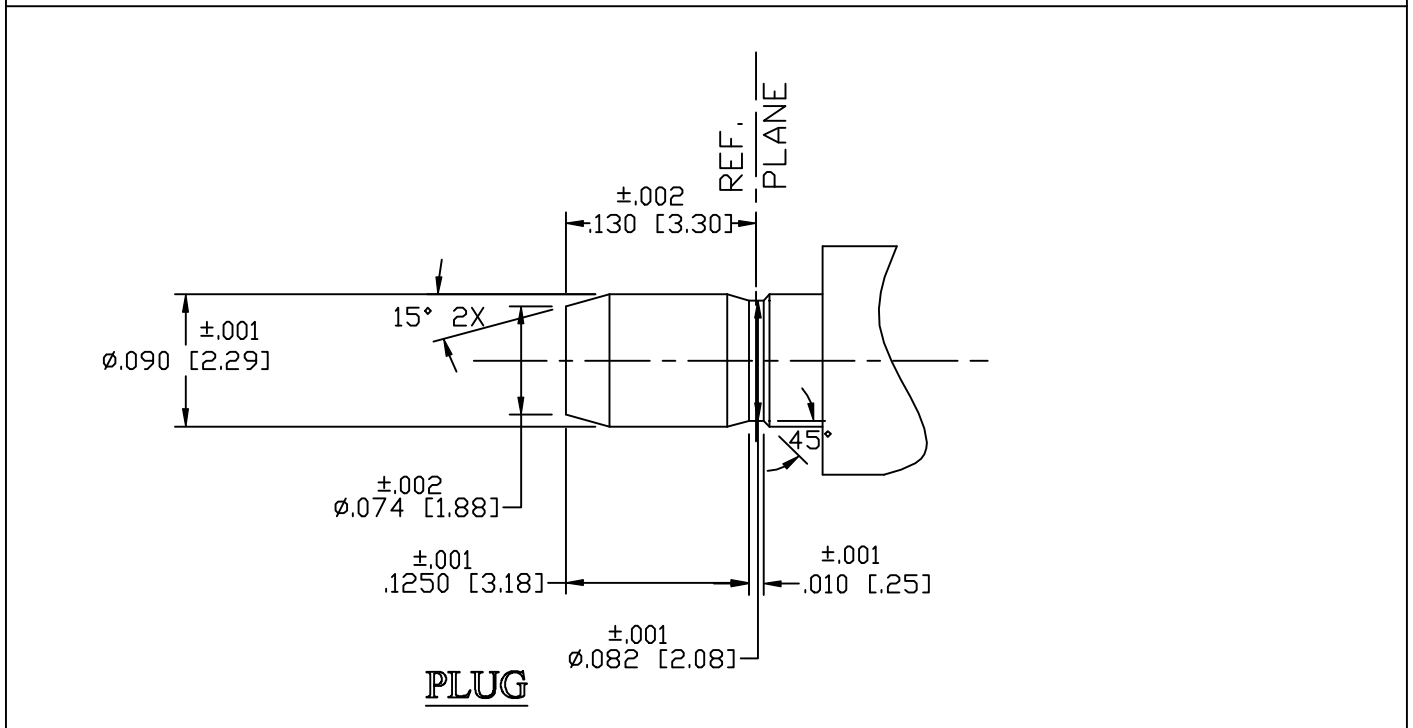
REV	DESCRIPTION	DATE	APPR
A	PER ECN 6872	01/23/03	HN
B	PER ECN 6899	02/14/03	HN

DESCRIPTION: 02258 SERIES - 20 AMP SNAP ON POWER CONTACTS



OPTIONAL RECEPTACLE

RECEPTACLE



PLUG

INTERFACE DESIGN STANDARD			REV	DESCRIPTION	DATE	APPR
IDS-02248			A	PER ECN 6470	02/26/02	HN
PAGE 1 OF 2	DATE: 02/26/02		B	PER ECN 6869	01/21/03	HN
DRAWN: EK	APPROVED: HN					
		22 GREAT HILL ROAD, NAUGATUCK, CT. 06770				
		PHONE: (203) 729-9090 FAX: (203) 723-1794				

DESCRIPTION: 02248 SERIES - 40 AMP SNAP ON POWER CONTACTS

## MECHANICAL

### MATERIALS

BODIES: PLUG AND RECEPTACLE (OPTIONAL) - BRASS PER ASTM-B-16.  
RETAINING RING - BERYLLIUM COPPER PER ASTM-B-196.  
RECEPTACLE - BERYLLIUM COPPER PER ASTM-B-196.

### PLATING:

GOLD PER MIL-G-45204.  
COPPER PER MIL-C-14550.  
NICKEL PER QQ-N-290.  
TIN LEAD PLATING - T20

## FINISHES

PLUG BODY & RECEPTACLE FINGER'S - .000030 MIN. GOLD OVER .000050/.000100 NICKEL,  
OVER COPPER FLASH, .000050 MAX.  
RECEPTACLE (OPTIONAL) BODIES -  
.000200/.000230 SOLDER PLATE OVER .000050 MAX. COPPER PLATE

## MATING CHARACTERISTICS

INSERTION FORCE: 8 LBS. MAX.  
WITHDRAWAL FORCE: 2 LBS. MIN. AFTER 200 CYCLES  
MATING CYCLES: 200 MIN.

## ELECTRICALS

RATED CURRENT: TO 40 AMPS  
CONTACT RESISANCE: 3 MILLIOHNS MAX.

## ENVIRONMENTAL

TEMPERATURE: -65°C TO +165°C  
TEMPERATURE CYCLING: -40°C TO +85°C, 10 CYCLES, 30  
MIN. DWELL, 20 SECONDS.  
STATIC HUMIDITY: 192 HOURS AT +50°C/90-95% HUMIDITY.  
SOLDERABILITY: PROVIDE 95% SOLDER COVERAGE ON ALL  
SOLDER TERMINATIONS.  
VIBRATION RANDOM: 0.04G/Hz, 10-2000Hz, 6G's, 15 MINUTES PER  
PLANE OR SINUSOIDAL: 10-15 Hz, 15G's, 30 MIN. PER PLANE,  
MAX. DISCONTINUITY 1 MICROSECOND.  
MECHANICAL SHOCK: 50G's, 1/2 SINE PULSE FOR 11 MILLISECONDS,  
3 SHOCKS PER PLANE (18 TOTALSHOCKS). MAX. DISCONTINUITY 1 MICROSECOND.

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PAGE 2 OF 2	DATE: 02/26/02
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**PALCO**  
**CONNECTOR**

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