

Assy Dwg # SWOPA2885ASY
Dwg Title PCB ASSY,SW-OPA DISC OPAMP THD (1)
Rev B
Schem Dwg # SWOPA2885SCH
Schem Title SCHEM,SWOPA DISC OPAMP THD (1)
Rev B

Orig Date 6-May-13
Assy Short Name SWOPA Disc Opamp THD1
Rev Date 6-May-13
Orig Date 6-May-13
Rev Date 6-May-13
Engineer Dale Chisholm

ITEM	REF DES	DESCRIPTION	Unit of Meas	VARIANT USAGE:		Original Part Manufacturer (Pref)		ORIGINAL COMPONENT MANUFACTURER				LINE COST PER VARIANT:		Original Part Manufacturer (Alternative)		ALTERNATIVE COMPONENT MANUFACTURER				LINE COST PER VARIANT:	
				-0	-1	MFRGR	MFRGR P/N	Unit Cost	Purch Qty	Mfrgr. Typical Source Vendor	Vendor P/N	-0	-1	MFRGR	MFRGR P/N	Unit Cost	Purch Qty	Mfrgr. Typical Source Vendor	Vendor P/N	-0	-1
1	<none>	SW-OPA DISC OPAMP THD(1) PWB	Ea	X	X	Pending	SWOPA2885PWB1			TBD	TBD	.0000	.0000	Pending	SWOPA2885PWB1			TBD	TBD	.0000	.0000
2	C1	Cap,Film PP 47pF	Ea	X	X	WIMA	FKP20100471D00KSSD	.1900	10	Mouser	505-FKP247/1000/10	.1900	.1900	WIMA	FKP20100471D00JSSD	.2886	25	TAW Electronics	FKP20100471D00JSSD	.2886	.2886
3	C2	Cap,Film PP 220pF 100V 5mm	Ea	X	X	WIMA	FKP20102201D00JSSD	.2400	10	Mouser	505-FKP2220/1000/5	.2400	.2400	WIMA	FKP20102201D00JSSD	.2821	25	TAW Electronics	FKP20102201D00JSSD	.2821	.2821
4	C3	Cap,Film PP 220pF 100V 5mm	Ea	X	X	WIMA	FKP20102201D00JSSD	.2400	10	Mouser	505-FKP2220/1000/5	.2400	.2400	WIMA	FKP20102201D00JSSD	.2821	25	TAW Electronics	FKP20102201D00JSSD	.2821	.2821
5	C4	Cap,Film 0.10uF 63V 5mm	Ea	X	X	WIMA	MKS2-.1/63/5	.2000	10	Mouser	505-MKS2.1/63/5	.2000	.2000	Kemet	R82DC3100AA50J	.1510	10	Digi-Key	399-5863-ND	.1510	.1510
6	C5	Cap,Film 0.10uF 63V 5mm	Ea	X	X	WIMA	MKS2-.1/63/5	.2000	10	Mouser	505-MKS2.1/63/5	.2000	.2000	Kemet	R82DC3100AA50J	.1510	10	Digi-Key	399-5863-ND	.1510	.1510
7	D1	Diode,SI Switch 100V 200mA 4nSec 1N4448	Ea	X	X	NXP Semiconductors	1N4448,113	.0920	1	Digi-Key	568-1361-1-ND	.0920	.0920	Vishay	1N4448TR	.0460	10	Mouser	78-1N4448	.0460	.0460
8	D2	Diode,SI Switch 100V 200mA 4nSec 1N4448	Ea	X	X	NXP Semiconductors	1N4448,113	.0920	1	Digi-Key	568-1361-1-ND	.0920	.0920	Vishay	1N4448TR	.0460	10	Mouser	78-1N4448	.0460	.0460
9	D3	Diode,SI Switch 100V 200mA 4nSec 1N4448	Ea	X	X	NXP Semiconductors	1N4448,113	.0920	1	Digi-Key	568-1361-1-ND	.0920	.0920	Vishay	1N4448TR	.0460	10	Mouser	78-1N4448	.0460	.0460
10	FB1	Bead,Ferrite Interference Supp 96 Ohms/25 MHz, 0.5A	Ea	X	X	Fair-Rite	2743007112	.1200	1	Mouser	623-2743007112	.1200	.1200	Panasonic	EXCELSA39	.1400	1	Digi-Key	P9818NK-ND	.1400	.1400
11	FB2	Bead,Ferrite Interference Supp 96 Ohms/25 MHz, 0.5A	Ea	X	X	Fair-Rite	2743007112	.1200	1	Mouser	623-2743007112	.1200	.1200	Panasonic	EXCELSA39	.1400	1	Digi-Key	P9818NK-ND	.1400	.1400
12	HS1	Heatsink,TO126 Clip On	Ea		X	Aavid Thermalloy	577500B00000G	.4000	1	Digi-Key	HS216_ND		.4000	Assmann WSW	V2110B	.4300	1	Digi-Key	A10750-ND		.4300
13	HS1	Heatsink,TO126 Clip On	Ea		X	Aavid Thermalloy	577500B00000G	.4000	1	Digi-Key	HS216_ND		.4000	Assmann WSW	V2110B	.4300	1	Digi-Key	A10750-ND		.4300
14	JP1	Jumper,Wire, 0.35" x 26AWG Solid	Ea	X	X	Belden	9976 009100	.0077	100 FT	Mouser	566-9976-100-09	.0077	.0077	General Cable/Carol	C2117A.12.02	.0076	100 FT	Digi-Key	C2117W-100-ND	.0076	.0076
15	JP2	Jumper,Wire, 0.35" x 26AWG Solid	Ea	X	X	Belden	9976 009100	.0077	100 FT	Mouser	566-9976-100-09	.0077	.0077	General Cable/Carol	C2117A.12.02	.0076	100 FT	Digi-Key	C2117W-100-ND	.0076	.0076
16	JP3	Jumper,Wire, 0.35" x 26AWG Solid	Ea	X	X	Belden	9976 009100	.0077	100 FT	Mouser	566-9976-100-09	.0077	.0077	General Cable/Carol	C2117A.12.02	.0076	100 FT	Digi-Key	C2117W-100-ND	.0076	.0076
17	P1	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
18	P2	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
19	P3	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
20	P4	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
21	P5	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
22	P6	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
23	P7	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
24	P8	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
25	P9	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
26	P10	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	X	X	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	.2200	.2200	Cambion	460-2627-2					.0000	.0000
27	Q1	XSTR,BF862 N-JFET Hi-Gm RF SOT23	Ea	X	X	NXP Semiconductors	BF862,215	.2700	1	Mouser	771-BF862-T/R	.2700	.2700	NXP Semiconductors	BF862,215	.3790	10	Digi-Key	568-1968-1-ND	.3790	.3790
28	Q2	XSTR,BF862 N-JFET Hi-Gm RF SOT23	Ea	X	X	NXP Semiconductors	BF862,215	.2700	1	Mouser	771-BF862-T/R	.2700	.2700	NXP Semiconductors	BF862,215	.3790	10	Digi-Key	568-1968-1-ND	.3790	.3790
29	Q3	XSTR,N-JFET J111 Hi-Vp Switch TO-92	Ea	X	X	Fairchild	J111	.1600	1	Mouser	512-J111	.1600	.1600	Fairchild	J111	.4900	1	Digi-Key	J111FS-ND	.4900	.4900
30	Q4	XSTR,N-JFET J111 Hi-Vp Switch TO-92	Ea	X	X	Fairchild	J111	.1600	1	Mouser	512-J111	.1600	.1600	Fairchild	J111	.4900	1	Digi-Key	J111FS-ND	.4900	.4900
31	Q5	XSTR,BF862 N-JFET Hi-Gm RF SOT23	Ea	X	X	NXP Semiconductors	BF862,215	.2700	1	Mouser	771-BF862-T/R	.2700	.2700	NXP Semiconductors	BF862,215	.3790	10	Digi-Key	568-1968-1-ND	.3790	.3790
32	Q6	XSTR,BF862 N-JFET Hi-Gm RF SOT23	Ea	X	X	NXP Semiconductors	BF862,215	.2700	1	Mouser	771-BF862-T/R	.2700	.2700	NXP Semiconductors	BF862,215	.3790	10	Digi-Key	568-1968-1-ND	.3790	.3790
33	Q7	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
34	Q8	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
35	Q9	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
36	Q10	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
37	Q11	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
38	Q12	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
39	Q13	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
40	Q14	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
41	Q15	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
42	Q16	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
43	Q17	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
44	Q18	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
45	Q19	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC550CUBU	.0500	1	Mouser	512-BC550CUBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712
46	Q20	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000
47	Q21	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	X	X	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	.1100	.1100	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.1000	.1000

ITEM	REF	DESCRIPTION	Unit of Meas	VARIANT USAGE:		Original Part Manufacturer (Pref)		Mfg. Typical Source			LINE COST PER VARIANT:				Original Part Manufacturer (Alternative)		Alternative Manufacturer Typical Source			LINE COST PER VARIANT:											
				-0	-1	MFG#	MFG# P/N	Unit Cost	Purch Qty	Vendor	Vendor P/N	-0	-1	MFG#	MFG# P/N	Unit Cost	Purch Qty	Vendor	Vendor P/N	-0	-1										
48	Q22	XSTR, KSA916 PNP 120V 800 mA Driver TO-92L ECB Pinout	Ea	X	X	Fairchild	KSA916YTA	.1600	1	Mouse	512-KSA916YTA	.1600	.1600	Fairchild	KSA916YTA	.5600	1	Digi-Key	KSA916YTACT-ND	.5600	.5600										
49	Q23	XSTR, KSC2316 NPN 120V 800 mA Driver TO-92L ECB Pinout	Ea	X	X	Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	.0573	.0573	Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	.0573	.0573										
50	Q24	XSTR, BC550 NPN 45V 100 mA Hi-HFE Low Noise TO-92	Ea	X	X	Fairchild	BC550CBU	.0500	1	Mouse	512-BC550CBU	.0500	.0500	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	.1712	.1712										
51	Q25	XSTR, KSC2316 NPN 120V 800 mA Driver TO-92L ECB Pinout	Ea	X		Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	.0573		Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	.0573											
52	Q25	XSTR, KSC2690A NPN 160V 1.2 A Med Pwr TO-126	Ea		X	Fairchild	KSC2690AYS	.3800	1	Mouse	512-KSC2690AYS		.3800	Fairchild	KSC2690AYS	.5400	1	Digi-Key	KSC2690AYSFSD-ND		.5400										
53	Q26	XSTR, KSA916 PNP 120V 800 mA Driver TO-92L ECB Pinout	Ea	X		Fairchild	KSA916YTA	.1600	1	Mouse	512-KSA916YTA	.1600		Fairchild	KSA916YTA	.5600	1	Digi-Key	KSA916YTACT-ND	.5600											
54	Q26	XSTR, KSA1220A PNP 160V 1.2 A Med Pwr TO-126	Ea		X	Fairchild	KSA1220AYS	.3700	1	Mouse	512-KSA1220AYS		.3700	Fairchild	KSA1220AYS	.4300	1	Digi-Key	KSA1220AYSFSD-ND		.4300										
55	R1	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
56	R2	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
57	R3	Res, Metal Film 1/4W 1% RN60 35.7 ohm	Ea	X	X	Vishay/Dale	RN60D35R7FB14	.1100	1	Mouse	71-RN60D35R7F	.1100	.1100	Vishay/Dale	CMF5535R700FHEB	.5890	10	Digi-Key	CMF35.7HFCT-ND	.5890	.5890										
58	R4	Res, Metal Film 1/4W 1% RN60 137 ohm	Ea	X	X	Vishay/Dale	RN60D1370FB14	.1100	1	Mouse	71-RN60D-F-137	.1100	.1100	Vishay/Dale	CMF55137R00FHEB	.5890	10	Digi-Key	CMF137HFCT-ND	.5890	.5890										
59	R5	Res, Metal Film 1/4W 1% RN60 Selected Value	Ea	X	X	Vishay/Dale	RN60D****FB14	.3300	1	Mouse	TBD	.3300	.3300	Vishay/Dale	CMF55****0FHEB	.5890	10	Digi-Key	TBD	.5890	.5890										
60	R6	Res, Metal Film 1/4W 1% RN60 Selected Value	Ea	X	X	Vishay/Dale	RN60D****FB14	.3300	1	Mouse	TBD	.3300	.3300	Vishay/Dale	CMF55****0FHEB	.5890	10	Digi-Key	TBD	.5890	.5890										
61	R7	Res, Metal Film 1/4W 1% RN60 137 ohm	Ea	X	X	Vishay/Dale	RN60D1370FB14	.1100	1	Mouse	71-RN60D-F-137	.1100	.1100	Vishay/Dale	CMF55137R00FHEB	.5890	10	Digi-Key	CMF137HFCT-ND	.5890	.5890										
62	R8	Res, Metal Film 1/4W 1% RN60 374 ohm	Ea	X	X	Vishay/Dale	RN60D3740FB14	.1100	1	Mouse	71-RN60D3740F	.1100	.1100	Vishay/Dale	CMF55374R00FHEB	.5890	10	Digi-Key	CMF374HFCT-ND	.5890	.5890										
63	R9	Res, Metal Film 1/4W 1% RN60 432 ohm	Ea	X	X	Vishay/Dale	RN60D4320FB14	.1100	1	Mouse	71-RN60D-F-432	.1100	.1100	Vishay/Dale	CMF55432R00FHEB	.5890	10	Digi-Key	CMF432HFCT-ND	.5890	.5890										
64	R10	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
65	R11	Res, Metal Film 1/4W 1% RN60 187 ohm	Ea	X	X	Vishay/Dale	RN60D1870FB14	.2000	1	Mouse	71-RN60D1870F	.2000	.2000	Vishay/Dale	CMF55187R00FHEB	.5890	10	Digi-Key	CMF187HFCT-ND	.5890	.5890										
66	R12	Res, Metal Film 1/4W 1% RN60 215 ohm	Ea	X	X	Vishay/Dale	RN60D2150FB14	.1100	1	Mouse	71-RN60D-F-215	.1100	.1100	Vishay/Dale	CMF55215R00FHEB	.5890	10	Digi-Key	CMF215HFCT-ND	.5890	.5890										
67	R13	Res, Metal Film 1/4W 1% RN60 249 ohm	Ea	X	X	Vishay/Dale	RN60D2490FB14	.1100	1	Mouse	71-RN60D-F-249	.1100	.1100	Vishay/Dale	RN60D2490FB14	.2723	100	Digi-Key	1135-1590-MIL	.2723	.2723										
68	R14	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
69	R15	Res, Metal Film 1/4W 1% RN60 124 ohm	Ea	X	X	Vishay/Dale	RN60D1240FB14	.1100	1	Mouse	71-RN60D-F-124	.1100	.1100	Vishay/Dale	CMF55124R00FHEB	.5890	10	Digi-Key	CMF124HFCT-ND	.5890	.5890										
70	R16	Res, Metal Film 1/4W 1% RN60 22.1 ohm	Ea	X	X	Vishay/Dale	RN60D22R1FB14	.1100	1	Mouse	71-RN60D-F-22.1	.1100	.1100	Vishay/Dale	CMF5522R100FKEB	.4660	10	Digi-Key	CMF22.1HGCT-ND	.4660	.4660										
71	R17	Res, Metal Film 1/4W 1% RN60 35.7 ohm	Ea	X	X	Vishay/Dale	RN60D35R7FB14	.1100	1	Mouse	71-RN60D35R7F	.1100	.1100	Vishay/Dale	CMF5535R700FHEB	.5890	10	Digi-Key	CMF35.7HFCT-ND	.5890	.5890										
72	R18	Res, Metal Film 1/4W 1% RN60 35.7 ohm	Ea	X	X	Vishay/Dale	RN60D35R7FB14	.1100	1	Mouse	71-RN60D35R7F	.1100	.1100	Vishay/Dale	CMF5535R700FHEB	.5890	10	Digi-Key	CMF35.7HFCT-ND	.5890	.5890										
73	R19	Res, Metal Film 1/4W 1% RN60 30.9K ohm	Ea	X	X	Vishay/Dale	RN60D3092FB14	.2000	1	Mouse	71-RN60D-F-30.9K	.2000	.2000	Vishay/Dale	CMF55309K00FHEB	.5890	10	Digi-Key	CMF30.9KHGCT-ND	.5890	.5890										
74	R20	Res, Metal Film 1/4W 1% RN60 432 ohm	Ea	X	X	Vishay/Dale	RN60D4320FB14	.1100	1	Mouse	71-RN60D-F-432	.1100	.1100	Vishay/Dale	CMF55432R00FHEB	.5890	10	Digi-Key	CMF432HFCT-ND	.5890	.5890										
75	R21	Res, Metal Film 1/4W 1% RN60 27.4 ohm	Ea	X		Vishay/Dale	RN60D27R4FB14	.1100	1	Mouse	71-RN60D-F-27.4	.1100		Vishay/Dale	CMF5527R400FHEB	.5890	10	Digi-Key	CMF27.4HFCT-ND	.5890											
76	R21	Res, Metal Film 1/4W 1% RN60 90.9 ohm	Ea		X	Vishay/Dale	RN60D90R9FB14	.1100	1	Mouse	71-RN60D-F-90.9		.1100	Vishay/Dale	CMF5590R900FHEB	.5890	10	Digi-Key	CMF90.9HFCT-ND		.5890										
77	R22	Res, Metal Film 1/4W 1% RN60 27.4 ohm	Ea	X		Vishay/Dale	RN60D27R4FB14	.1100	1	Mouse	71-RN60D-F-27.4	.1100		Vishay/Dale	CMF5527R400FHEB	.5890	10	Digi-Key	CMF27.4HFCT-ND	.5890											
78	R22	Res, Metal Film 1/4W 1% RN60 90.9 ohm	Ea		X	Vishay/Dale	RN60D90R9FB14	.1100	1	Mouse	71-RN60D-F-90.9		.1100	Vishay/Dale	CMF5590R900FHEB	.5890	10	Digi-Key	CMF90.9HFCT-ND		.5890										
79	R23	Res, Metal Film 1/4W 1% RN60 432 ohm	Ea	X	X	Vishay/Dale	RN60D4320FB14	.1100	1	Mouse	71-RN60D-F-432	.1100	.1100	Vishay/Dale	CMF55432R00FHEB	.5890	10	Digi-Key	CMF432HFCT-ND	.5890	.5890										
80	R24	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
81	R25	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
82	R26	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
83	R27	Res, Metal Film 1/4W 1% RN60 10.0 ohm	Ea	X	X	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouse	71-RN60D-F-10/R	.1100	.1100	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	.2723	.2723										
84	R28	Trimpot, Multiturn, Top Adj, 3/8" Thru Hole 500 ohms	Ea	X	X	Vishay/Sernice	T93YB501KT20	1.4400	1	Mouse	72-T93YB-500	1.4400	1.4400	BI Technologies	67YR500LF	1.4000	1	Digi-Key	987-1618-ND	1.4000	1.4000										
85	R29	Trimpot, Multiturn, Top Adj, 3/8" Thru Hole 2000 ohms	Ea	X	X	Vishay/Sernice	T93YB20K2T20	1.5800	1	Mouse	72-T93YB-2K	1.5800	1.5800	BI Technologies	67YR2KLF	1.4000	1	Digi-Key	987-1506-ND	1.4000	1.4000										
86	TB1	PWB Design Feature Only. No Physical Part.	Ea	X	X	N/A	N/A	N/A	N/A	N/A	N/A	.0000	.0000	N/A	N/A	N/A	N/A	N/A	N/A	.0000	.0000	.0000	.0000								
87	TB2	PWB Design Feature Only. No Physical Part.	Ea	X	X	N/A	N/A	N/A	N/A	N/A	N/A	.0000	.0000	N/A	N/A	N/A	N/A	N/A	N/A	.0000	.0000	.0000	.0000								
88																															
89																															
90																															
91																															
92																															
93																															
Component Parts Cost:												\$13.534	\$14.866	\$0.000	\$0.000	Component Parts Cost:												\$23.226	\$24.438	\$0.000	\$0.000

Assy Dwg #
Dwg Title
Rev
Schem Dwg #
Schem Title
Rev

SWOPA2885ASY
PCB ASSY,SW-OPA DISC OPAMP THD (1)
B
SWOPA2885SCH
SCHEM,SWOPA DISC OPAMP THD (1)
B

Orig Date
Assy Short Name
Rev Date
Orig Date

Rev Date
Engineer

6-May-13
SWOPA Disc Opamp THD1
6-May-13
6-May-13

6-May-13
Dale Chisholm

ITEM	REF DES	DESCRIPTION	Unit of Meas	QTY PER VER:		PREFERRED MANUFACTURER				LINE COST PER VERSION:		ALTERNATE MANUFACTURER				LINE COST PER VERSION:			
				-0	-1	Original Part Manufacturer (Pref) MFGFR	Manufacturer (Pref) MFGFR P/N	Unit Cost	Purch Qty	Pref. Mfg. Typical Source Vendor	Vendor P/N	-0	-1	Original Part Manufacturer (Alt) MFGFR	Manufacturer (Alt) MFGFR P/N	Unit Cost	Purch Qty	Alternate Manufacturer Typical Source Vendor	Vendor P/N
1	<none>	SW-OPA DISC OPAMP THD(1) PWB	Ea	1	1	Pending	SWOPA2885PWB1			TBD	TBD	Pending	SWOPA2885PWB1			TBD	TBD	.0000	.0000
2	C1	Cap.Film PP 47pF	Ea	1	1	WIMA	FKP2O100471D00KSSD	.1900	10	Mouser	505-FKP247/1000/10	WIMA	FKP2O100471D00JSSD	.2886	25	TAW Electronics	FKP2O100471D00JSSD	.2886	.2886
3	C2, C3	Cap.Film PP 220pF 100V 5mm	Ea	2	2	WIMA	FKP2O102201D00JSSD	.2400	10	Mouser	505-FKP2220/1000/5	WIMA	FKP2O102201D00JSSD	.2821	25	TAW Electronics	FKP2O102201D00JSSD	.5642	.5642
4	C4, C5	Cap.Film 0.10uF 63V 5mm	Ea	2	2	WIMA	MKS2-.1/63/5	.2000	10	Mouser	505-MKS2.1/63/5	Kemet	R82DC3100AA50J	.1510	10	Digi-Key	399-5863-ND	.3020	.3020
5	D1, D2, D3	Diode,Si Switch 100V 200mA 4nSec 1N4448	Ea	3	3	NXP Semiconductors	1N4448,113	.0920	1	Digi-Key	568-1361-1-ND	Vishay	1N4448TR	.0460	10	Mouser	78-1N4448	.1380	.1380
6	FB1, FB2	Bead,Ferrite Interference Supp 96 Ohms/25 MHz, 0.5A	Ea	2	2	Fair-Rite	2743007112	.1200	1	Mouser	623-2743007112	Panasonic	EXCELSA39	.1400	1	Digi-Key	P9818NK-ND	.2800	.2800
7	HS1, HS2	Heatsink,TO126 Clip On	Ea	0	2	Aavid Thermalloy	577500B00000G	.4000	1	Digi-Key	HS216_ND	Assmann WSW	V2110B	.4300	1	Digi-Key	A10750-ND	.0000	.8600
8	JP1, JP2, JP3	Jumper,Wire, 0.35" x 26AWG Solid	Ea	3	3	Belden	9976 009100	.0077	100 FT	Mouser	566-9976-100-09	General Cable/Carol	C2117A.12.02	.0076	100 FT	Digi-Key	C2117W-100-ND	.0228	.0228
9	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10	Pin,0.040" Contact, Staked, 0.043" Mtg Hole, 0.170" Standoff, 0.062" PWB	Ea	10	10	Mill-Max	3125-2-00-00-00-00-08-0	.2200	10	Mouser	575-31252000000000	Cambion	460-2627-2					.0000	.0000
10	Q1, Q2, Q5, Q6	XSTR,BF862 N-JFET Hi-Gm RF SOT23	Ea	4	4	NXP Semiconductors	BF862,215	.2700	1	Mouser	771-BF862-T/R	NXP Semiconductors	BF862,215	.3790	10	Digi-Key	568-1968-1-ND	1.5160	1.5160
11	Q3, Q4	XSTR,N-JFET J111 Hi-Vp Switch TO-92	Ea	2	2	Fairchild	J111	.1600	1	Mouser	512-J111	Fairchild	J111	.4900	1	Digi-Key	J111FS-ND	.9800	.9800
12	Q7, Q8, Q9, Q10, Q11, Q12, Q20, Q21	XSTR,BC560 PNP 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	8	8	Fairchild	BC560CTA	.1100	1	Mouser	512-BC560CTA	ON Semiconductor	BC560CG	.1000	1	Mouser	863-BC560CG	.8000	.8000
13	Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q24	XSTR,BC550 NPN 45V 100 mA Hi-HFE Lo-Noise TO-92	Ea	8	8	Fairchild	BC550CBU	.0500	1	Mouser	512-BC550CBU	ON Semiconductor	BC550CG	.1712	25	Digi-Key	BC550CGOS-ND	1.3696	1.3696
14	Q22	XSTR,KSA916 PNP 120V 800 mA Driver TO-92L ECB Pinout	Ea	1	1	Fairchild	KSA916YTA	.1600	1	Mouser	512-KSA916YTA	Fairchild	KSA916YTA	.5600	1	Digi-Key	KSA916YTACT-ND	.5600	.5600
15	Q23	XSTR,KSC2316 NPN 120V 800 mA Driver TO-92L ECB Pinout	Ea	1	1	Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	.0573	.0573
16	Q25	XSTR,KSC2316 NPN 120V 800 mA Driver TO-92L ECB Pinout	Ea	1	0	Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	Fairchild	KSC2316YTA	.0573	1	Arrow	KSC2316YTA	.0573	.0000
17	Q25	XSTR,KSC2690A NPN 160V 1.2 A Med Pwr TO-126	Ea	0	1	Fairchild	KSC2690AYS	.3800	1	Mouser	512-KSC2690AYS	Fairchild	KSC2690AYS	.5400	1	Digi-Key	KSC2690AYSFS-ND	.0000	.5400
18	Q26	XSTR,KSA916 PNP 120V 800 mA Driver TO-92L ECB Pinout	Ea	1	0	Fairchild	KSA916YTA	.1600	1	Mouser	512-KSA916YTA	Fairchild	KSA916YTA	.5600	1	Digi-Key	KSA916YTACT-ND	.5600	.0000
19	Q26	XSTR,KSA1220A PNP 160V 1.2 A Med Pwr TO-126	Ea	0	1	Fairchild	KSA1220AYS	.3700	1	Mouser	512-KSA1220AYS	Fairchild	KSA1220AYS	.4300	1	Digi-Key	KSA1220AYSFS-ND	.0000	.4300
20	R1, R2, R10, R14, R24, R25, R26, R27	Res,Metal Film 1/4W 1% RN60 10.0 ohm	Ea	8	8	Vishay/Dale	RN60D10R0FRE6	.1100	1	Mouser	71-RN60D-F-10/R	Vishay/Dale	RN60D10R0FB14	.2723	100	Digi-Key	1135-1563-MIL	2.1784	2.1784
21	R3, R17, R18	Res,Metal Film 1/4W 1% RN60 35.7 ohm	Ea	3	3	Vishay/Dale	RN60D35R7FB14	.1100	1	Mouser	71-RN60D35R7F	Vishay/Dale	CMF5535R700FHFB	.5890	10	Digi-Key	CMF35.7HFCT-ND	1.7670	1.7670
22	R4, R7	Res,Metal Film 1/4W 1% RN60 137 ohm	Ea	2	2	Vishay/Dale	RN60D1370FB14	.1100	1	Mouser	71-RN60D-F-137	Vishay/Dale	CMF55137R00FHFB	.5890	10	Digi-Key	CMF137HFCT-ND	1.1780	1.1780
23	R5	Res,Metal Film 1/4W 1% RN60 Selected Value	Ea	1	1	Vishay/Dale	RN60D****FB14	.3300	1	Mouser	TBD	Vishay/Dale	CMF55*****0FHFB	.5890	10	Digi-Key	TBD	.5890	.5890
24	R6	Res,Metal Film 1/4W 1% RN60 Selected Value	Ea	1	1	Vishay/Dale	RN60D****FB14	.3300	1	Mouser	TBD	Vishay/Dale	CMF55*****0FHFB	.5890	10	Digi-Key	TBD	.5890	.5890
25	R8	Res,Metal Film 1/4W 1% RN60 374 ohm	Ea	1	1	Vishay/Dale	RN60D3740FB14	.1100	1	Mouser	71-RN60D3740F	Vishay/Dale	CMF55374R00FHFB	.5890	10	Digi-Key	CMF374HFCT-ND	.5890	.5890

ITEM	REF DES	DESCRIPTION	Unit of Meas	QTY PER VER:		Original Part Manufacturer (Pref)		Pref. Mfgr. Typical Source				LINE COST PER VERSION:		Original Part Manufacturer (Alt)		Alternate ManufacturerTypical Source				LINE COST PER VERSION:	
				-0	-1	MFGFR	MFGFR P/N	Unit Cost	Purch Qty	Vendor	Vendor P/N	-0	-1	MFGFR	MFGFR P/N	Unit Cost	Purch Qty	Vendor	Vendor P/N	-0	-1
26	R9, R20, R23	Res,Metal Film 1/4W 1% RN60 432 ohm	Ea	3	3	Vishay/Dale	RN60D4320FB14	.1100	1	Mouser	71-RN60D-F-432	.3300	.3300	Vishay/Dale	CMF55432R00FHFB	.5890	10	Digi-Key	CMF432HFCT-ND	1.7670	1.7670
27	R11	Res,Metal Film 1/4W 1% RN60 187 ohm	Ea	1	1	Vishay/Dale	RN60D1870FB14	.2000	1	Mouser	71-RN60D1870F	.2000	.2000	Vishay/Dale	CMF55187R00FHFB	.5890	10	Digi-Key	CMF187HFCT-ND	.5890	.5890
28	R12	Res,Metal Film 1/4W 1% RN60 215 ohm	Ea	1	1	Vishay/Dale	RN60D2150FB14	.1100	1	Mouser	71-RN60D-F-215	.1100	.1100	Vishay/Dale	CMF55215R00FHFB	.5890	10	Digi-Key	CMF215HFCT-ND	.5890	.5890
29	R13	Res,Metal Film 1/4W 1% RN60 249 ohm	Ea	1	1	Vishay/Dale	RN60D2490FB14	.1100	1	Mouser	71-RN60D-F-249	.1100	.1100	Vishay/Dale	RN60D2490FB14	.2723	100	Digi-Key	1135-1590-MIL	.2723	.2723
30	R15	Res,Metal Film 1/4W 1% RN60 124 ohm	Ea	1	1	Vishay/Dale	RN60D1240FB14	.1100	1	Mouser	71-RN60D-F-124	.1100	.1100	Vishay/Dale	CMF55124R00FHFB	.5890	10	Digi-Key	CMF124HFCT-ND	.5890	.5890
31	R16	Res,Metal Film 1/4W 1% RN60 22.1 ohm	Ea	1	1	Vishay/Dale	RN60D22R1FB14	.1100	1	Mouser	71-RN60D-F-22.1	.1100	.1100	Vishay/Dale	CMF5522R100FKFB	.4660	10	Digi-Key	CMF22.1HGCT-ND	.4660	.4660
32	R19	Res,Metal Film 1/4W 1% RN60 30.9K ohm	Ea	1	1	Vishay/Dale	RN60D3092FB14	.2000	1	Mouser	71-RN60D-F-30.9K	.2000	.2000	Vishay/Dale	CMF5530K900FHFB	.5890	10	Digi-Key	CMF30.9KHFBCT-ND	.5890	.5890
33	R21, R22	Res,Metal Film 1/4W 1% RN60 27.4 ohm	Ea	2	0	Vishay/Dale	RN60D27R4FB14	.1100	1	Mouser	71-RN60D-F-27.4	.2200	.0000	Vishay/Dale	CMF5527R400FHFB	.5890	10	Digi-Key	CMF27.4HFCT-ND	1.1780	.0000
34	R21, R22	Res,Metal Film 1/4W 1% RN60 90.9 ohm	Ea	0	2	Vishay/Dale	RN60D90R9FB14	.1100	1	Mouser	71-RN60D-F-90.9	.0000	.2200	Vishay/Dale	CMF5590R900FHFB	.5890	10	Digi-Key	CMF90.9HFCT-ND	.0000	1.1780
35	R28	Trimpot,Multiturn, Top Adj, 3/8" Thru Hole 500 ohms	Ea	1	1	Vishay/Sternice	T93YB501KT20	1.4400	1	Mouser	72-T93YB-500	1.4400	1.4400	BI Technologies	67YR500LF	1.4000	1	Digi-Key	987-1618-ND	1.4000	1.4000
36	R29	Trimpot,Multiturn, Top Adj, 3/8" Thru Hole 2000 ohms	Ea	1	1	Vishay/Sternice	T93YB202KT20	1.5800	1	Mouser	72-T93YB-2K	1.5800	1.5800	BI Technologies	67YR2KLF	1.4000	1	Digi-Key	987-1506-ND	1.4000	1.4000
37	TB1	PWB Design Feature Only. No Physical Part.	Ea	1	1	N/A	N/A	.0000	1	N/A	N/A	.0000	.0000	N/A	N/A	.0000	1	N/A	N/A	.0000	.0000
38	TB2	PWB Design Feature Only. No Physical Part.	Ea	1	1	N/A	N/A	.0000	1	N/A	N/A	.0000	.0000	N/A	N/A	.0000	1	N/A	N/A	.0000	.0000
39																					
Component Parts Cost:												\$13.534	\$14.866	\$0.000	\$0.000	Component Parts Cost:					