

## 2 T850 VCO PCB

This section contains the following information.

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## T850 VCO Parts List (IPN 220-01145-02)

### How To Use This Parts List

The components listed in this parts list are divided into two main types: those with a circuit reference (e.g. C2, D1, R121, etc.) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns: the circuit reference, variant (if applicable), IPN and description. A letter in the variant column indicates that this is a variant component which is fitted only to the product type listed. Static sensitive devices are indicated by an (S) at the start of the description column.

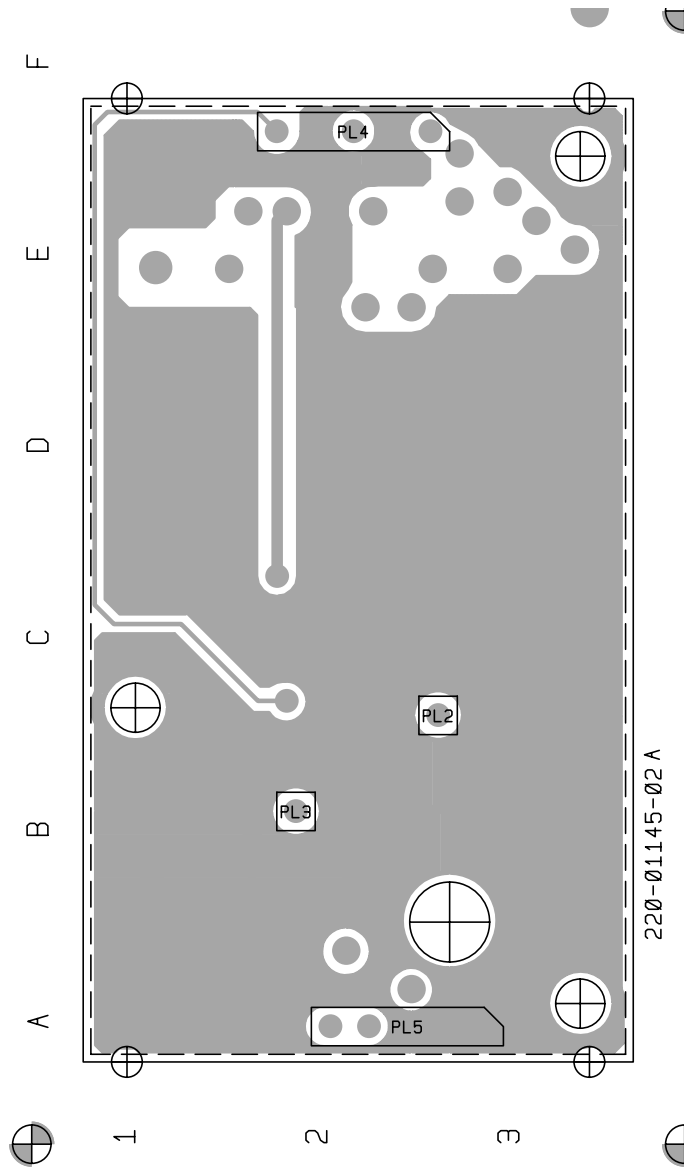
The miscellaneous and mechanical parts are listed in IPN order at the end of the parts list.

The Parts List Amendments box below lists component changes that took place after the parts list and diagrams in this section were compiled. These changes (e.g. value changes, added/deleted components, etc.) are listed by circuit reference in alphanumeric order and supersede the information given in the parts list or diagrams. Components without circuit references are listed in IPN order.

### Parts List Amendments

Capacitor IPN Change	The IPN of the 8p2 chip capacitors used in the T850 VCO has been changed from 015-21820-01 to 015-21820-02. The components themselves have not changed (780047/48/49/50).
*C1, C4, *C7 *C8, C10, C11	Rx mid/low/high: component values unchanged but tolerances changed to $\pm 0.1p$ to ensure consistent low noise performance from oscillators and to improve selectivity (710286, 710287, 710288).
C6	A length of 0.5mm tinned copper wire was soldered from the PCB via at the rear of the trimcap to the trimcap body to improve selectivity and signal-to-noise ratio (9/98).
R6	Rx low: changed from $120\Omega$ (IPN 036-13120-00) to $82\Omega$ (IPN 036-12820-00) to reduce the VCO noise floor (97/04-7078). Rx mid/high: changed from $82\Omega$ (IPN 036-12820-00) to $68\Omega$ (IPN 036-12680-00) to ensure consistent low noise performance from oscillators and to improve selectivity (710286, 710287).
Mechanical Modification	Two plated-through holes were added to the PCB either side of C6 to allow earth straps to be fitted to improve transient adjacent channel power. PCB IPN updated to 220-01145-03 (760076).

Ref	Var	IPN	Description	Ref	Var	IPN	Description																																																
<table border="1"> <thead> <tr> <th>Variant Code</th> <th>Description</th> <th>T855 (MHz)</th> <th>T856/857 (MHz)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Tx High</td> <td>-</td> <td>480-500</td> </tr> <tr> <td>B</td> <td>Tx Mid/Rx High</td> <td>480-520</td> <td>440-480</td> </tr> <tr> <td>C</td> <td>Tx Low/Rx Mid</td> <td>440-480</td> <td>400-440</td> </tr> <tr> <td>D</td> <td>Rx Low</td> <td>400-440</td> <td>-</td> </tr> </tbody> </table>				Variant Code	Description	T855 (MHz)	T856/857 (MHz)	A	Tx High	-	480-500	B	Tx Mid/Rx High	480-520	440-480	C	Tx Low/Rx Mid	440-480	400-440	D	Rx Low	400-440	-	<table border="1"> <tbody> <tr> <td>065-00010-13</td> <td></td> <td></td> <td>BEAD FERRITE 7D 1.9*0.9*3.8MM STACK POLE Place On Lead Of L4, Secure With Loctite 454-16 Gel</td> </tr> <tr> <td>220-01145-00</td> <td></td> <td></td> <td>PCB T855/856/857 VCO</td> </tr> <tr> <td>240-00026-32</td> <td></td> <td></td> <td>PLUG 32WAY 1ROW PC MTG HARWIN</td> </tr> <tr> <td>345-00040-10</td> <td></td> <td></td> <td>SCREW M3*6MM PAN POZI ST BZ</td> </tr> <tr> <td>350-00016-42</td> <td></td> <td></td> <td>SPACER 5MM HI 8MM X M3 STUD 2.5MM X M3</td> </tr> <tr> <td>353-00010-10</td> <td></td> <td></td> <td>WASHER M3 FLAT 7MM*0.6MM ST BZ</td> </tr> <tr> <td>353-00010-13</td> <td></td> <td></td> <td>WASHER M3 SHAKEPROOF INT BZ</td> </tr> </tbody> </table>				065-00010-13			BEAD FERRITE 7D 1.9*0.9*3.8MM STACK POLE Place On Lead Of L4, Secure With Loctite 454-16 Gel	220-01145-00			PCB T855/856/857 VCO	240-00026-32			PLUG 32WAY 1ROW PC MTG HARWIN	345-00040-10			SCREW M3*6MM PAN POZI ST BZ	350-00016-42			SPACER 5MM HI 8MM X M3 STUD 2.5MM X M3	353-00010-10			WASHER M3 FLAT 7MM*0.6MM ST BZ	353-00010-13			WASHER M3 SHAKEPROOF INT BZ
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*C1	A	015-21150-01	CAP CER 0805 CHIP 1P5 +/-0.25P NPO 50V																																																				
*C1	B	015-21180-01	CAP CER 0805 CHIP 1P8 +/-0.25 NPO 50V																																																				
*C1	C	015-21220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V																																																				
*C1	D	015-21220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V																																																				
C2		025-08100-02	CAP TANT BEAD 10M 10% 16V																																																				
C3		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V																																																				
C4		015-21100-01	CAP CER 0805 CHIP 1P0 +/-0.25P NPO 50V																																																				
C5		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V																																																				
C6		028-02110-00	LH)CAPTRM1.2-11P10T PISTONPREC																																																				
*C7	A	015-21680-01	CAP CER 0805 CHIP 6P8 +/-0.25P NPO 50V																																																				
*C7	B	015-21470-01	CAP CER 0805 CHIP 4P7 +/-0.25P NPO 50V																																																				
*C7	C	015-21680-01	CAP CER 0805 CHIP 6P8 +/-0.25P NPO 50V																																																				
*C7	D	015-21820-01	CAP CER 0805 CHIP 8P2 +/-0.25P NPO 50V																																																				
*C8	A	015-22270-01	CAP CER 0805 CHIP 27P 5% NPO 50V																																																				
*C8	B	015-22270-01	CAP CER 0805 CHIP 27P 5% NPO 50V																																																				
*C8	C	015-22330-01	CAP CER 0805 CHIP 33P 5% NPO 50V																																																				
*C8	D	015-22330-01	CAP CER 0805 CHIP 33P 5% NPO 50V																																																				
C9		015-23120-01	CAP CER 0805 CHIP 120P 5% NPO 50V																																																				
C10		015-21180-01	CAP CER 0805 CHIP 1P8 +/-0.25 NPO 50V																																																				
C11		015-21330-01	CAP CER 0805 CHIP 3P3 +/-0.25P NPO 50V																																																				
C12		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V																																																				
C13		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V																																																				
C14		015-23120-01	CAP CER 0805 CHIP 120P 5% NPO 50V																																																				
C16		015-23120-01	CAP CER 0805 CHIP 120P 5% NPO 50V																																																				
C17		015-23120-01	CAP CER 0805 CHIP 120P 5% NPO 50V																																																				
C18		015-22220-01	CAP CER 0805 CHIP 22P 5% NPO 50V																																																				
C19		015-05470-08	CAP CER 1206 CHIP 47N 10% X7R 50V																																																				
C21		015-23120-01	CAP CER 0805 CHIP 120P 5% NPO 50V																																																				
C22		015-23120-01	CAP CER 0805 CHIP 120P 5% NPO 50V																																																				
C23		015-21820-01	CAP CER 0805 CHIP 8P2 +/-0.25P NPO 50V																																																				
C24		015-05470-08	CAP CER 1206 CHIP 47N 10% X7R 50V																																																				
D1		001-00012-63	(S) DIODE VARICAP BB809																																																				
D2		001-00012-63	(S) DIODE VARICAP BB809																																																				
L1		056-00021-60	IND FXD 330NH 6.6X2.7MM AXIAL NON MAGNET																																																				
L2		056-00021-60	IND FXD 330NH 6.6X2.7MM AXIAL NON MAGNET																																																				
L3		056-00021-60	IND FXD 330NH 6.6X2.7MM AXIAL NON MAGNET																																																				
L4		056-00021-60	IND FXD 330NH 6.6X2.7MM AXIAL NON MAGNET																																																				
L5		052-08135-35	COIL A/W 3.5T/3.5MM HOR 0.8MM WIRE																																																				
PL2		240-00025-36	PLUG 32WAY 1ROW PC MTG HARWIN																																																				
PL3		240-00025-36	PLUG 32WAY 1ROW PC MTG HARWIN																																																				
PL4		240-00025-36	PLUG 32WAY 1ROW PC MTG HARWIN																																																				
PL5		240-00025-36	PLUG 32WAY 1ROW PC MTG HARWIN																																																				
Q1		000-10057-10	(S) XSTR SMD MMBR571 NPN SOT-23 UHF LO PW																																																				
Q2		000-10057-10	(S) XSTR SMD MMBR571 NPN SOT-23 UHF LO PW																																																				
Q3		000-10057-10	(S) XSTR SMD MMBR571 NPN SOT-23 UHF LO PW																																																				
Q4		000-10008-57	(S) XSTR SMD BCW70/BC857-215 PNP SOT23AF																																																				
Q5		000-00032-47	(S) XSTR MRF559 NPN XPACK UHF PWR 0.5W																																																				
R1		036-14390-00	RES M/F 0805 CHIP 3K9 5%																																																				
R2		036-14100-00	RES M/F 0805 CHIP 1K 5%																																																				
R3		036-13100-00	RES M/F 0805 CHIP 100E 5%																																																				
R4		036-12220-00	RES M/F 0805 CHIP 22E 5%																																																				
R5		036-12270-00	RES M/F 0805 CHIP 27E 5%																																																				
*R6	A	036-12820-00	RES M/F 0805 CHIP 82E 5%																																																				
*R6	B	036-12820-00	RES M/F 0805 CHIP 82E 5%																																																				
*R6	C	036-12820-00	RES M/F 0805 CHIP 82E 5%																																																				
*R6	D	036-13120-00	RES M/F 0805 CHIP 120E 5%																																																				
R7		036-14100-00	RES M/F 0805 CHIP 1K 5%																																																				
R8		036-12220-00	RES M/F 0805 CHIP 22E 5%																																																				
R9		036-14270-00	RES M/F 0805 CHIP 2K7 5%																																																				
R10		036-14120-00	RES M/F 0805 CHIP 1K2 5%																																																				
R11		036-13150-00	RES M/F 0805 CHIP 150E 5%																																																				
R12		036-12100-00	RES M/F 0805 CHIP 10E 5%																																																				
R13		036-12560-00	RES M/F 0805 CHIP 56E 5%																																																				
R14		036-13330-00	RES M/F 0805 CHIP 330E 5%																																																				
R15		036-12100-00	RES M/F 0805 CHIP 10E 5%																																																				
R17		036-14680-00	RES M/F 0805 CHIP 6K8 5%																																																				
R18		036-14180-00	RES M/F 0805 CHIP 1K8 5%																																																				
R19		036-14100-00	RES M/F 0805 CHIP 1K 5%																																																				
R20		036-12180-00	RES M/F 0805 CHIP 18E 5%																																																				
R21		036-13330-00	RES M/F 0805 CHIP 330E 5%																																																				
R22		036-12100-00	RES M/F 0805 CHIP 10E 5%																																																				
*TL1	A	051-00005-43	RESNTR TAIT NO 543 480-520MHZ T855/7																																																				
*TL1	B	051-00005-42	RESNTR TAIT NO 542 435-480MHZ T855/7																																																				
*TL1	C	051-00005-41	RESNTR TAIT NO 541 395-440MHZ T855/7																																																				
*TL1	D	051-00005-40	RESNTR TAIT NO 540 355-395MHZ T855/7																																																				



T850 VCO PCB (IPN 220-01145-02) - Bottom Side

