Latest version at the top.

PC S/W	Firmware	PC Software Change Details	Instrument Firmware Change Details
V1.1.18.49 (Beta)	0022 (Beta)	Added dynamic cursors on most graph types.	Improved support for IGBTs with high gate capacitance. Added support for SiC MOSFETs (high V_F body diode).
V1.1.16. 2446	0021	Improved data import parsing for saved graphs. Corrected lead names on IGBT graphs. Updated test circuit diagrams.	No change.
V1.1.15. 1828	0021	Corrected data import parsing error for saved graphs.	No change.
V1.1.14. 1821	0021	Added graph for BJT: I_C/I_B. Corrected issue that caused JFET graph titles to revert to incorrect values when starting a new curve. JFET graph titles corrected in exported data. BJT: I_C/V_{CE} graph now correctly includes leakage current for I_C axis values. BJT: h_{FE}/I_C graph now correctly includes leakage current for I_C axis values (h_{FE} axis values still takes leakage current into account). Increased range of manually set I_B test currents available in BJT graphs. Autoset values for V_{GE} in IGBT I_C/V_{CE} graph now ensures a good span of I_C.	No change.
V.1.1.13. 1771	0021	Corrected graph title for JFET I_D/V_{GS} graphs. Corrected missing diode on the diagram for a PNP Darlington with protection diode and base-emitter shunt resistors. Improved text export formatting. Support for new firmware.	Improved SCR detection for devices with high reverse conduction. Added I_G, V_{AK}, V_{GK}, I_{LATCH} and I_{HOLD} measurements for SCRs.
V1.1.12. 1669	0019	Added Graph for BJT: I_C/V_{BE}. Improved graph trace drawing order. Added global graph font size adjustment. Added labels to PN graph. Added "spare lead" control selection to PN graph. Added lock and auto-set for graph parameters. Added "right-click" option to lock traces (to aid part matching etc.). Allows swap of Drain/Source for JFET graphs. Improved Vreg graphs now compensate for voltage dropped across ground current sense resistor. Improved constant current and constant voltage iteration when close to graph limits. Added user-defined graph title (useful for printing). Added user-defined naming of graph traces (with optional auto-numbering that can increment on every graph start). Added user-defined component names (with optional auto-numbering that can increment on every component identification). Added option to show/hide graph legend. Added option to delete all traces on <u>all</u> graphs. Added graph options to graph menu (in addition to "right-click" context menu). Added colours to all lead identities. Added tool-tips of graph parameter limits and other items. Improved tool-tip behaviour and extended display duration.	IGBT detection improved for very high current devices. Measures $V_{CE(SAT)}$ saturation voltage for BJTs at $I_B=1mA$ and $I_C=5mA$ (displayed if $h_{FE}>10$). Measures $V_{CE(SAT)}$ saturation voltage for digital transistors at $V_{BE}=5V$ and $I_C=5mA$. Measures $V_{CE(SAT)}$ saturation voltage for IGBTs at $V_{GE}=5V$ and $I_C=5mA$. Measures $R_{DS(ON)}$ for JFETs (to 1Ω resolution) at $V_{GS}=0V$ and $I_D=5mA$ typically. Measures $R_{DS(ON)}$ for MOSFETs (to 1Ω resolution) at $V_{GS}=8V$ and $I_D=5mA$ typically. Improved constant current and constant voltage iteration when close to test limits. Added SCR reverse conduction rejection test. This helps to reject parts that exhibit SCR-like latch-up. Increased acceptable Germanium leakage current from 2mA to 3mA. Improved detection of Silicon/Germanium semiconductor type for BJTs which helps with some silicon power transistors that have a very low V_{BE}. Increased regulator quiescent current limit from 5mA to 6mA. Increased regulator dVout limit from 10% to 20% (to help cope with regulators that are less stable when tested on the DCA75). Displays warning if regulator dVout>5%.
V1.1.11. 1294	0018	Added clearer parameter labels for V/I graphs. Added dVout descriptions in text pane for regulators. Streamlined software download process. Streamlined firmware upgrade process. Improvement in speed of some graph types.	JFET I_{DSS} measurement now at defined for V_{DS} of 3V. JFET and MOSFET Transconductance measurement now at constant V_{DS} of 3V. JFET and MOSFET $I_{D(OFF)}$ threshold is now 5µA. Improved "Digital Level" transistor support.
V1.1.10. 1270	0017	Support for new firmware	Correction of firmware upgrade process for early revision units.

V1.1.9.1263	0016	Added dVout measurement for regulators. Support for new firmware.	Improved regulator support for some with unstable Vout. Added dVout measurement for regulators. Improved diode network detections. Added new diode network symbols. Improved asymmetric JFET detection.
	0015	Support for new firmware.	Update to LCD code to support different LCD chip set.
V1.1.8.1166	0014	Support for new firmware.	Improved support for MOSFETs with high R_{DSon}. Improved support for MOSFETs with high body diode voltage. Improved support for protected-gate IGBTs. Improved Depletion/Enhancement mode differentiation.
V1.1.7.1126	0013	Corrected graph tool-tips for different localisations. Support for new firmware.	Improved IGBT detection. Improved SCR and Triac detection especially for very sensitive types. Improved performance of boost converter when running on battery power.
V1.1.6.1115	0012	Support for new firmware.	Improved detection of germanium transistors that have high reverse collector-emitter leakage current. Correction of diode network detection. Improved SCR and Triac detection.
V1.1.5.985	0011	Added symbols for MOSFETs with body diodes. Corrected I_B labels on curve tracing settings. Added V_{CC}, V_{DD} and V_S labels to test circuit diagrams.	Added symbols for MOSFETs with body diodes. Increased scrolling speed.

V1.1.4.956	0010	Improved memory management.
		Minor label adjustment for graphs.
		Log/Linear span for MOSFET V_{GS} option.
		Added Graphs:
		  Vreg: I_Q/V_{IN}
		  IGBT: I_C/V_{CE}
		  IGBT: I_C/V_{GE}
			Added "digital" transistor support including measurement of both internal resistances.
			Improved support for MOSFETs with high R_{DSon}.
			Improved text line spacing.

V1.1.3.924	0009	Improved measurement of germanium leakage during H_{FE} graphing. Improved graph scaling. Minor label adjustment for text entry.	No change.
V1.1.2.840	0009	Support for new firmware.	LCD initialisation optimisation. Improved depletion mode support. Improved voltage regulator support. JFET PN junction threshold adjustment for improved SiC support.
V1.1.1.834	0008	Improved USB disconnection handling.	

V1.1.0.815	0008	Added config option to JFET Graphs.
		Added Graphs:
		  BJT: h_{FE}/V_{CE}
		  BJT: h_{FE}/I_C
		Added multiple traces to JFET I_D/V_{GS} graph.
		Allow colour change of traces.
		Added graph printing.
		Added graph loading & saving.
		Added circuit diagrams of test conditions.
			Improved MOSFET detection, including support for protected/smart gate types.
			Improved USB Suspend behaviour.
			Optimised BJT tests to limit reverse bias to 5V.

V1.0.4.737	0007	Simplified Windows® 8 installation process. Auto scaling of graphs improved, particularly for small parameters.	Improved support for bi-colour LEDs that have very symmetrical forward/reverse characteristics.
V1.0.3.720	0006	Includes optional automatic update checking. Support for new firmware.	Corrected sound on/off settings. Improved support for JFETs with highly non-symmetrical characteristics. Implemented 5mA constant current tests for bipolar transistor V_{BE} measurements (rather than resistive drive).
V1.0.2.0	0005	Improved number format support for international Windows®.	Improved support for JFETs that have saturation currents of less than 5mA.
V1.0.0.0	0004-5	Original Release.	Original Release (0005 included mods for factory use only).

Upgrades for the DCA75 can be performed by the user. Please contact us if you require assistance.

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