



STEVAL-IHT003V1

Low-loss e-STARTER demonstration board for compressor starter circuits based on the ACST6

Data Brief

Features

- Suitable for refrigerator and freezer compressor applications
- Reduces PTC resistor power losses

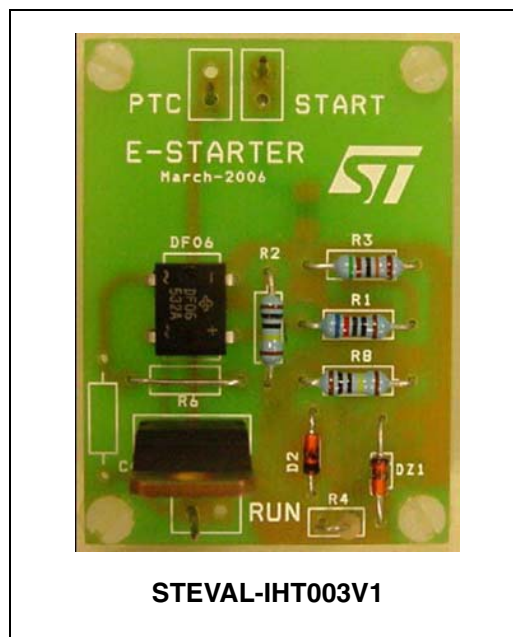
Description

The e-STARTER demonstration board represents an innovative solution patented by STMicroelectronics to reduce the power losses caused by positive temperature coefficient (PTC) resistors in compressor starter circuits.

The solution features an ACST6 AC switch device which is used to turn off the PTC current after motor start-up. It should be noted that the traditional PTC is still used in the electronic starter circuit, as it increases the safety of the circuit in cases of AC switch short-circuit or diode mode failure (ref. EN60335-1).

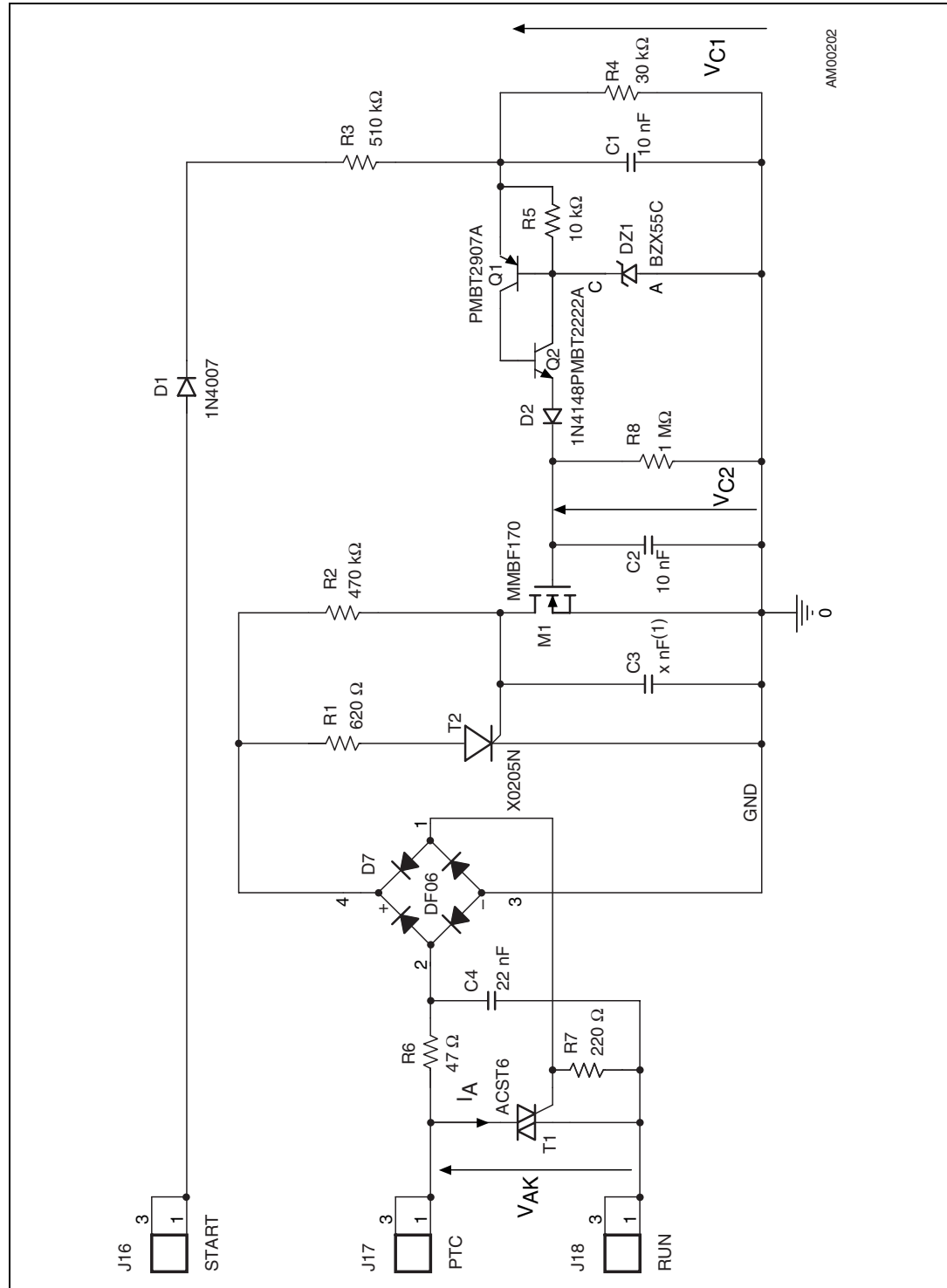
The design allows the starter standby losses to be reduced from (typ) 2.5 W to 380 mW for 230 V applications, or 2.5 W to 40 mW for 100 V applications.

Because this board is not a “plug and play” solution, prior to using the board with a compressor the PTC behavior must be checked (especially VPTC1 & VPTC2 levels), and different R4 resistor value may be required.



1 Schematic diagram

Figure 1. e-STARTER circuit schematic



1. Capacitor C3 is not soldered on the board, but can be added in order to evaluate its impact on board immunity.

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
08-Jul-2008	1	Initial release.

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