



Product Overview

STK531U394A-E: Inverter IPM for 3-phase Motor Drive

For complete documentation, see the data sheet

Product Description

This "Inverter IPM" is highly integrated device containing all High Voltage (HV) control from HV-DC to 3-phase outputs in a single SIP module (Single-In line Package). Output stage uses IGBT/FRD technology and implements Under Voltage Protection (UVP) and Over Current Protection (OCP) with a Fault Detection output flag. Internal Boost diodes are provided for high side gate boost drive.

Features	Benefits
<ul style="list-style-type: none"> Protective circuits including over current (bus line) and pre-drive low voltage protection are built in. Direct input of CMOS level control signals without insulating circuits is possible. (Active HIGH) A single power supply drive is enabled through the use of bootstrap circuits for upper power supplies. (externally set) Built-in simultaneous upper/lower ON prevention circuit to prevent arm shorting through simultaneous ON input for the upper and lower side transistors. (Dead time is required for preventing shorting due to switching delay.) The level of the overcurrent protection current can be changed with the external resistor "RSD" between the "ISD" and "VSS" terminals. Monitoring substrate temperature is possible through the use of an internal thermistor. Certification : UL Recognized (File number : E339285) 	<ul style="list-style-type: none"> Fast speed protection is possible (Self protection) No need photo-coupler design No need bootstrap diode and resistor at externally All IGBT Gate shutdown at abnormal for safety Can be customized by each application High precision monitor is possible

Applications	End Products
<ul style="list-style-type: none"> 3-phase Motor 	<ul style="list-style-type: none"> Motor Control System Industrial /General Control Syst HVAC Clothes Washer /Dryer Dish Washer

Part Electrical Specifications

Product	Compliance	Status	Type	V _M Min (V)	V _M Max (V)	V _{CC} Min (V)	V _{CC} Max (V)	I _O Max (A)	I _O Peak Max (A)	Step Reso lution	Cont rol Type	Feed back Method	Curr ent Sense	Reg ulator Output	Fault Dete ction	Flyb ack Protectio n	R _{DS(on)} Typ (Ω)	Pack age Type
STK531U394A-E	Pb-free	Active	Inver ter		600		20	15	30		PW M	Non e	Fully Integrated		Over-Cur rent Therma l UV LO			SIP-29

For more information please contact your local sales support at www.onsemi.com

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