

POWER MODULES

VS-GP100TS60SFPbF, VS-GP250SA60S,
VS-GP300TD60S, and VS-GP400TD60S

IGBT Power Modules Increase Efficiency and Reduce Conduction Losses in TIG Welding Machines



KEY BENEFITS

- Trench PT IGBT technology
- Low collector-to-emitter voltages down to 1.10 V
- Turn-off switching energy down to 11 mJ
- HEXFRED® and FRED Pt® anti-parallel diodes (half-bridge devices)
- INT-A-PAK, low-profile Dual INT-A-PAK, and SOT-227 packages
- Low stray inductance of ≤ 5 nH typical (VS-GP250SA60S)
- Operating frequencies to 1 kHz
- 600 V collector-to-emitter voltages
- Continuous collector current from 100 A to 400 A
- Direct mounting to heatsinks
- RoHS-compliant

APPLICATIONS

- Output inverter stages for TIG welding machines

RESOURCES

- Datasheet: see back page
- For technical questions contact DiodesAmerica@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
- Material categorization: For definitions of compliance, please see www.vishay.com/99912



**POWER MODULES****VS-GP100TS60SFPbF, VS-GP250SA60S,
VS-GP300TD60S, and VS-GP400TD60S**

Four half-bridge and single-switch IGBT power modules designed specifically for TIG welding machines are now available. Built on Vishay's proprietary Trench PT IGBT technology, the VS-GP100TS60SFPbF, VS-GP250SA60S, VS-GP300TD60S, and VS-GP400TD60S provide extremely low collector-to-emitter voltages down to 1.10 V and turn-off switching energy down to 11 mJ for output inverter stages.

- Smaller size than planar IGBTs for higher current density and lower thermal resistance (junction-to-case) without compromising on performance
- Low collector-to-emitter voltage enables extremely low conduction losses
- Turn-off switching energy is 50 % lower than previous-generation devices for increased efficiency and long-term reliability
- Dual INT-A-PAK package features an extremely low profile of 17 mm
- Low EMI reduces snubbing requirements

PART #	VS-GP100TS60SFPbF	VS-GP250SA60S	VS-GP300TD60S	VS-GP400TD60S
I_C	100 A	250 A	300 A	400 A
V_{CE(ON)}	1.16 V	1.10 V	1.30 V	1.30 V
PACKAGE	INT-A-PAK	SOT-227	DIAP, low profile	DIAP, low profile
E_{off}	15.3 mJ	11 mJ	33 mJ	45 mJ
CIRCUIT	Half Bridge	Single Switch	Half Bridge	Half Bridge
IGBT	Trench PT	Trench PT	Trench PT	Trench PT
DIODE	FRED Pt [®]	None	HEXFRED [®]	HEXFRED [®]