

IGBT - Field Stop

600 V, 40 A

FGH40N60UFD

Description

Using novel Field Stop IGBT technology, **onsemi**'s field stop IGBTs offer the optimum performance for solar inverter, UPS, welder, microwave oven, telecom, ESS and PFC applications where low conduction and switching losses are essential.

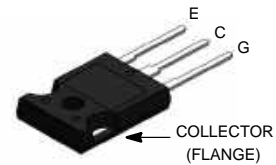
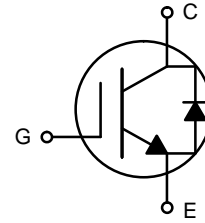
Features

- High Current Capability
- Low Saturation Voltage: $V_{CE(sat)} = 1.8 \text{ V @ } I_C = 40 \text{ A}$
- High Input Impedance
- Fast Switching
- This Device is Pb-Free and is RoHS Compliant

Applications

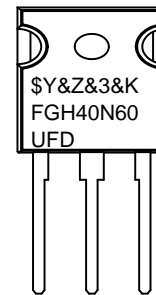
- Solar Inverter, UPS, Welder, PFC, Microwave Oven, Telecom, ESS

V_{CES}	I_C
600 V	40 A



TO-247-3LD
CASE 340CK

MARKING DIAGRAM



\$Y	= onsemi Logo
&Z	= Assembly Plant Code
&3	= Numeric Date Code
&K	= Lot Code
FGH40N60UFD	= Specific Device Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

FGH40N60UFD

ABSOLUTE MAXIMUM RATINGS

Symbol	Description		Ratings	Unit
V_{CES}	Collector to Emitter Voltage		600	V
V_{GES}	Gate to Emitter Voltage		± 20	V
	Transient Gate-to-Emitter Voltage		± 30	V
I_C	Collector Current	$T_C = 25^\circ\text{C}$	80	A
		$T_C = 100^\circ\text{C}$	40	A
I_{CM} (Note 1)	Pulsed Collector Current	$T_C = 25^\circ\text{C}$	120	A
P_D	Maximum Power Dissipation	$T_C = 25^\circ\text{C}$	290	W
		$T_C = 100^\circ\text{C}$	116	W
T_J	Operating Junction Temperature		-55 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range		-55 to +150	$^\circ\text{C}$
T_L	Maximum Lead Temp. for Soldering Purposes, 1/8" from Case for 5 Seconds		300	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Repetitive rating: Pulse width limited by max. junction temperature.

THERMAL CHARACTERISTICS

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$ (IGBT)	Thermal Resistance, Junction to Case	–	0.43	$^\circ\text{C/W}$
$R_{\theta JC}$ (Diode)	Thermal Resistance, Junction to Case	–	1.45	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	–	40	$^\circ\text{C/W}$

PACKAGE MARKING AND ORDERING INFORMATION

Part Number	Top Mark	Package	Packing Method	Reel Size	Tape Width	Qty per Tube
FGH40N60UFD TU	FGH40N60UFD	TO-247	Tube	N/A	N/A	30