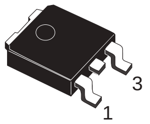
STGD10NC60H

N-channel 10A - 600V - DPAK
Very fast PowerMESH™ IGBT

Features

Type	V_{CES}	$V_{CE(sat)}$ (Max)@ 25°C	I_C @100°C
STGD10NC60H	600V	< 2.5V	10A

- Low on-voltage drop (V_{cesat})
- Low C_{RES} / C_{IES} ratio (no cross-conduction susceptibility)

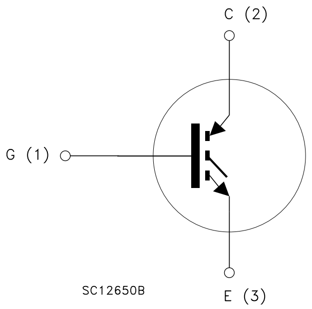


DPAK

Description

Using the latest high voltage technology based on a patented strip layout, STMicroelectronics has designed an advanced family of IGBTs, the PowerMESH™ IGBTs, with outstanding performances. The suffix "H" identifies a family optimized for high frequency applications in order to achieve very high switching performances (reduced tfall) manta in ing a low voltage drop.

Internal schematic diagram



Applications

- High frequency motor controls
- SMPS and PFC in both hard switch and resonant topologies
- Motor drivers

Order code

Part number	Marking	Package	Packaging
STGD10NC60H	GD10NC60H	DPAK	Tape & reel

1 Electrical ratings

Table 1. Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_{CES}	Collector-emitter voltage (V_{GS} = 0)	600	V
I_C(1)	Collector current (continuous) at T_C = 25°C	20	A
I_C(1)	Collector current (continuous) at T_C = 100°C	10	A
I_{CL}(2)	Collector current (pulsed)	40	A
V_{GE}	Gate-emitter voltage	±20	V
P_{TOT}	Total dissipation at T_C = 25°C	60	W
T_j	Operating junction temperature	– 55 to 150	°C

1. Calculated according to the iterative formula:

$$I_C(T_C) = \frac{T_{JMAX} - T_C}{R_{THJ-C} \times V_{CESAT(MAX)}(T_C, I_C)}$$

2. V_{clamp}=480V, Tj=150°C, R_G=10Ω, V_{GE}=15V

Table 2. Thermal resistance

Symbol	Parameter	Value	Unit
Rthj-case	Thermal resistance junction-case max	2.08	°C/W
Rthj-amb	Thermal resistance junction-ambient max	62.5	°C/W