

# BSH108

N-channel enhancement mode field-effect transistor

## 1. Description

N-channel enhancement mode field-effect transistor in a plastic package using TrenchMOS™<sup>1</sup> technology.

Product availability:

BSH108 in SOT23.

## 2. Features

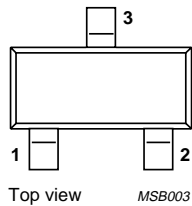
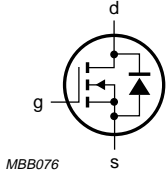
- TrenchMOS™ technology
- Very fast switching
- Logic level compatible
- Subminiature surface mount package.

## 3. Applications

- Battery management
- High speed switch
- Low power DC to DC converter.

## 4. Pinning information

Table 1: Pinning - SOT23, simplified outline and symbol

Pin	Description	Simplified outline	Symbol
1	gate (g)	 <p>Top view MSB003</p> <p><b>SOT23</b></p>	 <p>MBB076</p>
2	source (s)		
3	drain (d)		

# B5H108

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### 5. Quick reference data

**Table 2: Quick reference data**

Symbol	Parameter	Conditions	Typ	Max	Unit
$V_{DS}$	drain-source voltage (DC)	$T_j = 25$ to $150$ °C	–	30	V
$I_D$	drain current (DC)	$T_{sp} = 25$ °C; $V_{GS} = 5$ V	–	1.9	A
$P_{tot}$	total power dissipation	$T_{sp} = 25$ °C	–	0.83	W
$T_j$	junction temperature		–	150	°C
$R_{DS(on)}$	drain-source on-state resistance	$V_{GS} = 10$ V; $I_D = 1$ A	77	120	mΩ
		$V_{GS} = 5$ V; $I_D = 1$ A	102	140	mΩ

### 6. Limiting values

**Table 3: Limiting values**

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{DS}$	drain-source voltage (DC)	$T_j = 25$ to $150$ °C	–	30	V
$V_{DGR}$	drain-gate voltage (DC)	$T_j = 25$ to $150$ °C; $R_{GS} = 20$ kΩ	–	30	V
$V_{GS}$	gate-source voltage (DC)		–	±20	V
$I_D$	drain current (DC)	$T_{sp} = 25$ °C; $V_{GS} = 5$ V; <b>Figure 2 and 3</b>	–	1.9	A
		$T_{sp} = 100$ °C; $V_{GS} = 5$ V; <b>Figure 2</b>	–	1.2	A
$I_{DM}$	peak drain current	$T_{sp} = 25$ °C; pulsed; $t_p \leq 10$ μs; <b>Figure 3</b>	–	7.5	A
$P_{tot}$	total power dissipation	$T_{sp} = 25$ °C; <b>Figure 1</b>	–	0.83	W
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	operating junction temperature		–65	+150	°C
<b>Source-drain diode</b>					
$I_S$	source (diode forward) current (DC)	$T_{sp} = 25$ °C	–	0.83	A
$I_{SM}$	peak source (diode forward) current	$T_{sp} = 25$ °C; pulsed; $t_p \leq 10$ μs	–	3.3	A