

BSH108

N-channel enhancement mode field-effect transistor

1. Description

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

Product availability:

BSH108 in SOT23.

2. Features

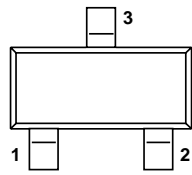
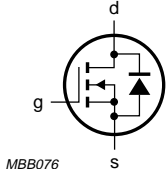
- TrenchMOS™ technology
- Very fast switching
- Logic level compatible
- Subminiature surface mount package.

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>MBB076</p>
2	source (s)		
3	drain (d)		

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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_{DSon}	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; Figure 2 and 3	–	1.9	A
		$T_{sp} = 100$ °C; $V_{GS} = 5$ V; Figure 2	–	1.2	A
I_{DM}	peak drain current	$T_{sp} = 25$ °C; pulsed; $t_p \leq 10$ μs; Figure 3	–	7.5	A
P_{tot}	total power dissipation	$T_{sp} = 25$ °C; Figure 1	–	0.83	W
T_{stg}	storage temperature		–65	+150	°C
T_j	operating junction temperature		–65	+150	°C
Source-drain diode					
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