



# PMN38EN

## 1. Product profile

### 1.1 General description

Logic level N-channel enhancement mode Field-Effect Transistor (FET) in a plastic package using TrenchMOS technology.

### 1.2 Features

- Logic level threshold
- Low threshold voltage
- Very fast switching
- Surface-mounted package

### 1.3 Applications

- Battery powered motor control
- High-speed switch in set top box power supplies
- Load switch in notebook computers
- Driver FET in DC-to-DC converters

### 1.4 Quick reference data

- $V_{DS} \leq 30\text{ V}$
- $R_{DS(on)} \leq 38\text{ m}\Omega$
- $I_D \leq 5.4\text{ A}$
- $P_{tot} \leq 1.75\text{ W}$

## 2. Pinning information

Table 1: Pinning

Pin	Description	Simplified outline	Symbol
1, 2, 5, 6	drain (D)	<p>SOT457 (TSOP6)</p>	<p>mbb076</p>
3	gate (G)		
4	source (S)		

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## 3. Ordering information

**Table 2: Ordering information**

Type number	Package		
	Name	Description	Version
PMN38EN	TSOP6	plastic surface mounted package (TSOP6); 6 leads	SOT457

## 4. 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	$25\text{ °C} \leq T_j \leq 150\text{ °C}$	-	30	V
$V_{GS}$	gate-source voltage		-	$\pm 20$	V
$I_D$	drain current	$T_{sp} = 25\text{ °C}; V_{GS} = 10\text{ V};$ see <a href="#">Figure 2</a> and <a href="#">3</a>	-	5.4	A
		$T_{sp} = 100\text{ °C}; V_{GS} = 10\text{ V};$ see <a href="#">Figure 2</a>	-	3.4	A
$I_{DM}$	peak drain current	$T_{sp} = 25\text{ °C};$ pulsed; $t_p \leq 10\text{ }\mu\text{s};$ see <a href="#">Figure 3</a>	-	21.6	A
$P_{tot}$	total power dissipation	$T_{sp} = 25\text{ °C};$ see <a href="#">Figure 1</a>	-	1.75	W
$T_{stg}$	storage temperature		-55	+150	°C
$T_j$	junction temperature		-55	+150	°C
<b>Source-drain diode</b>					
$I_S$	source current	$T_{sp} = 25\text{ °C}$	-	1.45	A
$I_{SM}$	peak source current	$T_{sp} = 25\text{ °C};$ pulsed; $t_p \leq 10\text{ }\mu\text{s}$	-	5.80	A