



# PMN50XP

## 1. Product profile

### 1.1 General description

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

### 1.2 Features

- Low threshold voltage
- Low on-state losses

### 1.3 Applications

- Low power DC-to-DC converters
- Battery management
- Load switching
- Battery powered portable equipment

### 1.4 Quick reference data

- $V_{DS} \leq -20\text{ V}$
- $I_D \leq -4.8\text{ A}$
- $R_{DS(on)} \leq 60\text{ m}\Omega$
- $Q_{GD} = 1.3\text{ nC (typ)}$

## 2. Pinning information

Table 1: Pinning

Pin	Description	Simplified outline	Symbol
1, 2, 5, 6	drain (D)	<p>SOT457 (TSOP6)</p>	<p>003aaa671</p>
3	gate (G)		
4	source (S)		

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## 3. Ordering information

**Table 2: Ordering information**

Type number	Package		Version
	Name	Description	
PMN50XP	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	$25\text{ °C} \leq T_j \leq 150\text{ °C}$	-	-20	V
$V_{DGR}$	drain-gate voltage (DC)	$25\text{ °C} \leq T_j \leq 150\text{ °C}$ ; $R_{GS} = 20\text{ k}\Omega$	-	-20	V
$V_{GS}$	gate-source voltage		-	$\pm 12$	V
$I_D$	drain current	$T_{sp} = 25\text{ °C}$ ; $V_{GS} = -4.5\text{ V}$ ; see <a href="#">Figure 2</a> and <a href="#">3</a>	-	-4.8	A
		$T_{sp} = 100\text{ °C}$ ; $V_{GS} = -4.5\text{ V}$ ; see <a href="#">Figure 2</a>	-	-3	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>	-	-19.4	A
$P_{tot}$	total power dissipation	$T_{sp} = 25\text{ °C}$ ; see <a href="#">Figure 1</a>	-	2.2	W
$T_{stg}$	storage temperature		-55	+150	°C
$T_j$	junction temperature		-55	+150	°C

### Source-drain diode

$I_S$	source current	$T_{sp} = 25\text{ °C}$	-	-1.9	A
$I_{SM}$	peak source current	$T_{sp} = 25\text{ °C}$ ; pulsed; $t_p \leq 10\text{ }\mu\text{s}$	-	-7.5	A