



1. Description

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

Product availability:

PMN45EN in SOT457 (TSOP6).

2. Features

- TrenchMOS™ technology
- Very fast switching
- Low threshold voltage
- Surface mount package.

3. Applications

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

4. Pinning information

Table 1: Pinning - SOT457 (TSOP6), simplified outline and symbol

Pin	Description	Simplified outline	Symbol
1,2,5,6	drain (d)	<p>Top view MBK092</p> <p>SOT457 (TSOP6)</p>	<p>MBB076</p>
3	gate (g)		
4	source (s)		

5. Quick reference data

Table 2: Quick reference data

Symbol	Parameter	Conditions	Typ	Max	Unit
V_{DS}	drain-source voltage (DC)	$25\text{ °C} \leq T_j \leq 150\text{ °C}$	-	30	V
I_D	drain current (DC)	$T_{sp} = 25\text{ °C}; V_{GS} = 10\text{ V}$	-	5.2	A
P_{tot}	total power dissipation	$T_{sp} = 25\text{ °C}$	-	1.75	W
T_j	junction temperature		-	150	°C
R_{DSon}	drain-source on-state resistance	$V_{GS} = 10\text{ V}; I_D = 3\text{ A}; T_j = 25\text{ °C}$	32	40	mΩ
		$V_{GS} = 4.5\text{ V}; I_D = 2.8\text{ A}; T_j = 25\text{ °C}$	42	50	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)	$25\text{ °C} \leq T_j \leq 150\text{ °C}$	-	30	V
V_{GS}	gate-source voltage (DC)		-	20	V
I_D	drain current (DC)	$T_{sp} = 25\text{ °C}; V_{GS} = 10\text{ V}$	-	5.2	A
		$T_{sp} = 70\text{ °C}; V_{GS} = 10\text{ V}$	-	4.2	A
I_{DM}	peak drain current	$T_{sp} = 25\text{ °C}; \text{pulsed}; t_p \leq 10\text{ }\mu\text{s}$	-	21.1	A
P_{tot}	total power dissipation	$T_{sp} = 25\text{ °C}$	-	1.75	W
T_{stg}	storage temperature		-55	+150	°C
T_j	junction temperature		-55	+150	°C

Source-drain diode

I_S	source (diode forward) current (DC)	$T_{sp} = 25\text{ °C}$	-	1.45	A
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