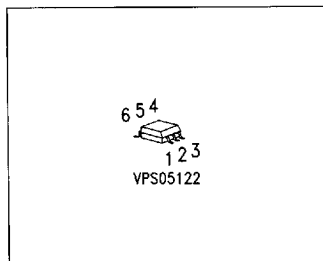


## High Voltage Level Shifter

BRM 10

### Preliminary Data

- Power MOSFET Driver
- Floating supply
- Bootstrap operation
- CMOS compatible input
- Operating voltage up to 800 V
- Operating frequency up to 100 kHz



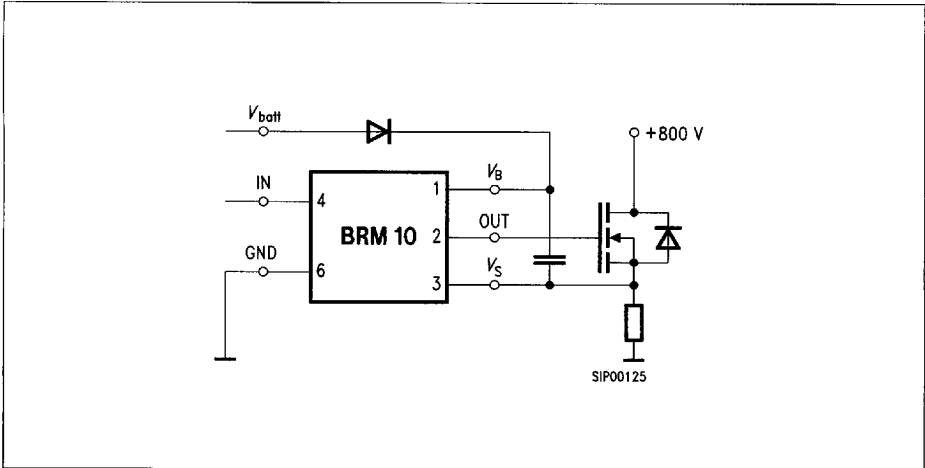
Type	Ordering Code	Information	Marking	Package
BRM 10	Q67000-S274	100 pcs per tube	BRM 10	P-DSO-6

### Maximum Ratings

Parameter	Symbol	Values	Unit
Operating voltage	$V_S$	800	V
Voltage between $V_B$ and $V_S$	$V_{BS}$	22	
Voltage between IN and Ground	$V_{IN}$	- 0.2 ... + 15	
Operating temperature range	$T_j$	- 40 ... + 150	°C
Storage temperature range	$T_{stg}$	- 55 ... + 150	
Max. power dissipation	$P_{tot}$	0.6	W
Thermal resistance	$R_{thJA}$	220	KW

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Pin Configuration



Pin Definitions and Functions

Pin No.	Symbol	Function
1	$V_B$	Floating supply voltage
2	OUT	Output (Gate)
3	$V_S$	Output (Source)
4	IN	Input
5	—	Not connected
6	GND	Ground

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**Electrical Characteristics**at  $T_j = 25\text{ }^\circ\text{C}$ ,  $V_{BS} = 15\text{ V}$ , unless otherwise specified.

Parameter and Conditions	Symbol	Values			Unit
		min.	typ.	max.	

**Load Switching Capabilities and Characteristics**

Output resistance	$V_{IN} = \text{low}$	$R_{OUT}$	–	40	–	$\Omega$
Output voltage (OUT to $V_S$ ), no load		$V_{OUT}$	–	9.5	–	V
Short circuit output current	$V_{IN} = \text{high}$	$I_{OUT}$	–	150	–	mA
$V_{IN} = 10\text{ V}$ , $C_L = 1\text{ nF}$ , $V_S = 0\text{ V}$						$\mu\text{s}$
Delay turn-on time	to 10 % $V_{OUT}$	$t_{d(\text{on})}$	–	0.5	tbd	
Rise time	10 to 70 % $V_{OUT}$	$t_r$	–	0.3	tbd	
Delay turn-off time	to 90 % $V_{OUT}$	$t_{d(\text{off})}$	–	0.5	tbd	
Fall time	90 to 100 % $V_{OUT}$	$t_f$	–	0.25	tbd	
Critical rate of rise of $V_S$	$V_{IN} = 0\text{ V}$	$-dV_S/dt$	–	–	8	kV/ $\mu\text{s}$
	$V_{IN} = 10\text{ V}$	$-dV_S/dt$	–	–	8	

**Input**

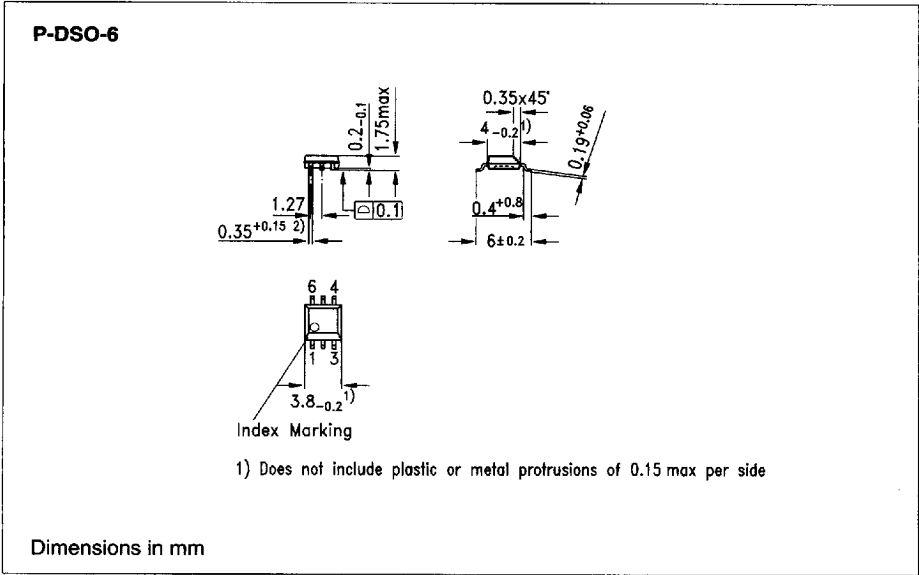
Input turn-on threshold voltage		$V_{IH}$	tbd	2.6	–	V
Input turn-off threshold voltage		$V_{IL}$	–	2.2	tbd	
Off state input current	$V_{IN} = 0.4\text{ V}$	$I_{IN}$	–	20	–	$\mu\text{A}$
On state input current	$V_{IN} = 5\text{ V}$	$I_{IN(\text{on})}$	–	30	–	
	$V_{IN} = 10\text{ V}$		–	150	–	

**Operating Parameters**

Operating voltage		$V_S$	–6	–	800	V
		$V_{BS}$	10	–	22	
Quiescent $V_S$ supply current $V_B = V_S = 800\text{ V}$	$V_{IN} = 0\text{ V}$	$I_{QS}$	–	0.001	1	$\mu\text{A}$
	$V_{IN} = 10\text{ V}$		–	250	–	
Quiescent $V_{BS}$ supply current $V_{BS} = 22\text{ V}$	$V_{IN} = 0\text{ V}$	$I_{QBS}$	–	350	1000	
	$V_{IN} = 10\text{ V}$		–	260	tbd	

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Package Outline



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