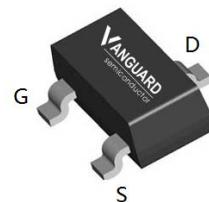


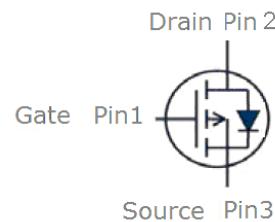
## Features

- P-Channel,-5V Logic Level Control
- Enhancement mode
- Low on-resistance  $R_{DS(on)}$  @  $V_{GS}=-4.5$  V
- Fast Switching
- Pb-free lead plating; RoHS compliant

$V_{DS}$	-100	V
$R_{DS(on),TYP}$ @ $V_{GS}=-10$ V	485	mΩ
$R_{DS(on),TYP}$ @ $V_{GS}=-4.5$ V	520	mΩ
$I_D$	-1.3	A

**SOT23**

**Halogen-Free**

Part ID	Package Type	Marking	Tape and reel information
VSC600P10MS	SOT23	1P2	3000pcs/reel



## Maximum ratings, at $T_j=25$ °C, unless otherwise specified

Symbol	Parameter	Rating	Unit
$V_{(BR)DSS}$	Drain-Source breakdown voltage	-100	V
$I_D$	Continuous drain current@ $V_{GS}=-10$ V	$T_A = 25^\circ\text{C}$	-1.3
		$T_A = 100^\circ\text{C}$	-0.8
$I_{DM}$	Pulse drain current tested ①	$T_A = 25^\circ\text{C}$	-5.2
$P_D$	Maximum power dissipation	$T_A = 25^\circ\text{C}$	1.5
$I_S$	Diode continuous forward current	$T_A = 25^\circ\text{C}$	1.2
$V_{GS}$	Gate-Source voltage	$\pm 20$	V
$T_{STG} T_J$	Storage and operating temperature range	-55 to 150	°C

## Thermal characteristics

$R_{\theta JA}$	Thermal Resistance Junction-Ambient	80	°C/W
$R_{\theta JC}$	Thermal Resistance-Junction to Case	52	°C/W

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
<b>Static Electrical Characteristics @ T<sub>A</sub> = 25°C (unless otherwise stated)</b>						
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V I <sub>D</sub> =-250μA	-100	--	--	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current(T <sub>c</sub> =25°C)	V <sub>DS</sub> =-100V, V <sub>GS</sub> =0V	--	--	-1	μA
	Zero Gate Voltage Drain Current(T <sub>c</sub> =125°C)	V <sub>DS</sub> =-100V, V <sub>GS</sub> =0	--	--	-100	μA
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	--	--	±100	nA
V <sub>GS(TH)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250μA	-1.0	-2.0	-3.0	V
R <sub>DS(ON)</sub>	Drain-Source On-State Resistance②	V <sub>GS</sub> =-10V, I <sub>D</sub> =-1.3A	--	485	600	mΩ
R <sub>DS(ON)</sub>	Drain-Source On-State Resistance②	V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-1A	--	520	650	mΩ
<b>Dynamic Electrical Characteristics @ T<sub>A</sub> = 25°C (unless otherwise stated)</b>						
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =-30V, V <sub>GS</sub> =0V, f=1MHz	--	490	--	pF
C <sub>oss</sub>	Output Capacitance		--	25	--	pF
C <sub>rss</sub>	Reverse Transfer Capacitance		--	15	--	pF
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =-50V, I <sub>D</sub> =-1A, V <sub>GS</sub> =-10V	--	20	--	nC
Q <sub>gs</sub>	Gate-Source Charge		--	10	--	nC
Q <sub>gd</sub>	Gate-Drain Charge		--	5	--	nC
<b>Switching Characteristics</b>						
t <sub>d(on)</sub>	Turn-on Delay Time	V <sub>DD</sub> =-50V, I <sub>D</sub> =-1A, R <sub>G</sub> =6.8Ω, V <sub>GS</sub> =-10V	--	10	--	nS
t <sub>r</sub>	Turn-on Rise Time		--	22	--	nS
t <sub>d(off)</sub>	Turn-Off Delay Time		--	15	--	nS
t <sub>f</sub>	Turn-Off Fall Time		--	11	--	nS
<b>Source- Drain Diode Characteristics@ T<sub>A</sub>= 25°C (unless otherwise stated)</b>						
V <sub>SD</sub>	Forward on voltage	I <sub>SD</sub> =-1A, V <sub>GS</sub> =0V	--	0.81	-1.2	V
t <sub>rr</sub>	Reverse Recovery Time	T <sub>j</sub> =25°C, I <sub>SD</sub> =-1A, V <sub>GS</sub> =0V di/dt=-100A/μs	--	13	--	nS
Q <sub>rr</sub>	Reverse Recovery Charge		--	22	--	nC

**NOTE:**

① Repetitive rating; pulse width limited by max. junction temperature.

②Pulse width ≤ 300μs; duty cycle≤ 2%.

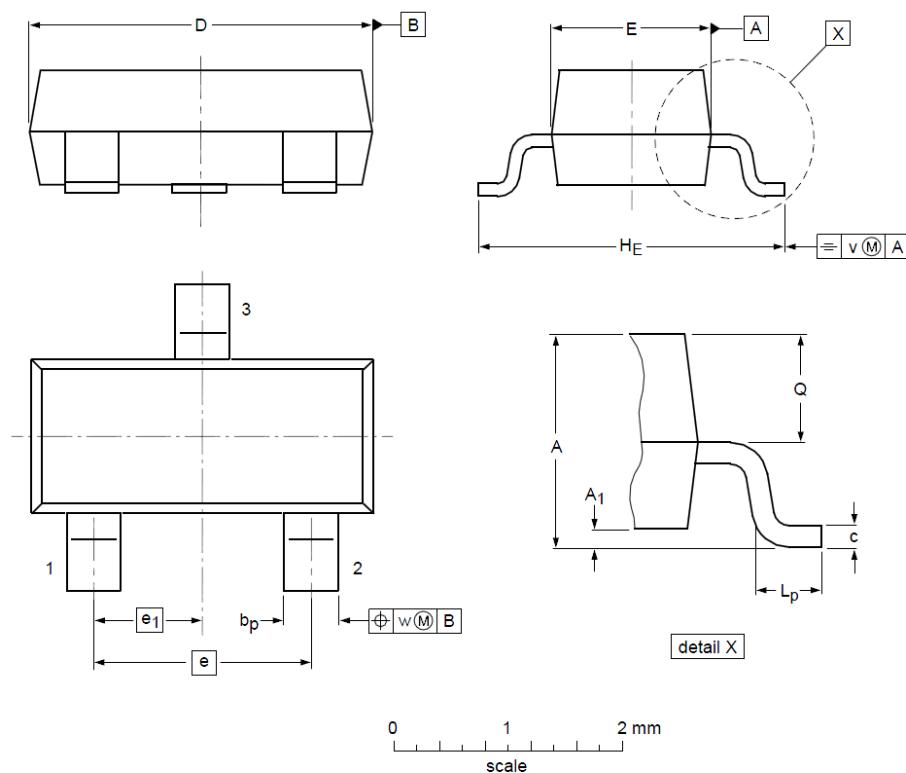


Vanguard  
Semiconductor

VSC600P10MS

-100V/-1.3A P-Channel Advanced Power MOSFET

## SOT23 Package Outline Data



### DIMENSIONS (unit : mm)

Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
<b>A</b>	0.90	1.03	1.10	<b>A<sub>1</sub></b>	0.01	0.05	0.10
<b>b<sub>p</sub></b>	0.38	0.42	0.48	<b>c</b>	0.09	0.13	0.15
<b>D</b>	2.80	2.92	3.00	<b>E</b>	1.20	1.33	1.40
<b>e</b>	--	1.90	--	<b>e<sub>1</sub></b>	--	0.95	--
<b>H<sub>E</sub></b>	2.10	2.40	2.50	<b>L<sub>p</sub></b>	0.15	0.23	0.45
<b>Q</b>	0.45	0.49	0.55	<b>v</b>	--	0.20	--
<b>w</b>	--	0.10	--				

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单击下面可查看定价，库存，交付和生命周期等信息

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