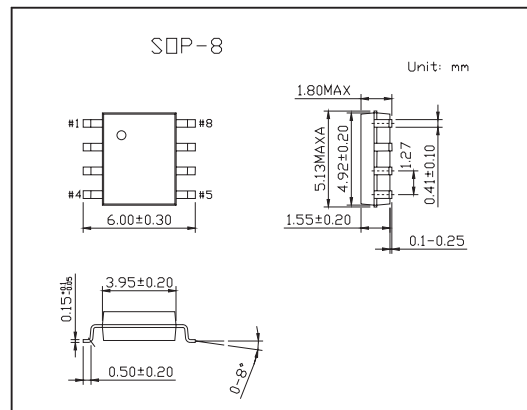
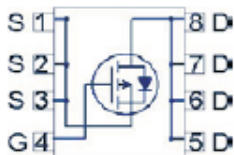


# KSO200P03S(BSO200P03S)

## ■ Features

- P-Channel
- Enhancement mode
- Logic level
- Avalanche rated
- dv /dt rated
- Ideal for fast switching buck converter



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	≤10 secs	steady state	Unit
Continuous drain current TA=25°C TA=70°C	ID	-9.1	-7.4	A
		-7.3	-5.9	
Pulsed drain current TA=25°C	IDP	-37		A
Avalanche energy, single pulse *1	EAS	98		mJ
Reverse diode dv /dt *2	dv /dt	-6		kV/ μ s
Gate source voltage	VGS	±25		V
Power dissipation	PD	2.36	1.56	W
Thermal resistance, junction - soldering point	RthJS	35		K/W
Thermal resistance, junction - ambient	RthJA	110		K/W
Operating and storage temperature	Tj, Tstg	-55 to 150		°C

\*1 ID=-9.1A, RGS=25 Ω

\*2 ID=-9.1A, VDS=20 V, di /dt =200 A/ μ s, Tj,max=150°C

## KSO200P03S(BSO200P03S)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V <sub>DSS</sub>	V <sub>GS</sub> =0 V, I <sub>D</sub> =-250 μ A	-30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =-30V, V <sub>GS</sub> =0V, T <sub>J</sub> =25 °C		-0.1	-1	μ A
		V <sub>DS</sub> =-30 V, V <sub>GS</sub> =0 V, T <sub>J</sub> =125 °C		-10	-100	
Gate-source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±25 V, V <sub>DS</sub> =0 V			±100	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-100 μ A	-1	-1.5		V
Drain-source on-state resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10 V, I <sub>D</sub> =-9.1A		16.7	20.0	m Ω
Forward Transconductance	g <sub>fs</sub>	V <sub>DS</sub>  >2 I <sub>D</sub>  R <sub>DS(on)max</sub> , I <sub>D</sub> =-7.3 A	11	21		S
Input capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-25V, f =1 MHz		1750	2330	pF
Output capacitance	C <sub>oss</sub>			470	625	
Reverse transfer capacitance	C <sub>rss</sub>			390	580	
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> =-15 V, V <sub>GS</sub> =-10 V, I <sub>D</sub> =-1A, R <sub>G</sub> =6 Ω		10	53	ns
Rise time	t <sub>r</sub>			11	17	
Turn-off delay time	t <sub>d(off)</sub>			42	63	
Fall time	t <sub>f</sub>			33	50	
Gate to source charge	Q <sub>gs</sub>	V <sub>DD</sub> =-24V, I <sub>D</sub> =9.1A, V <sub>GS</sub> =0 to-10 V		4.8	6.4	nC
Gate charge at threshold	Q <sub>g(th)</sub>			2.6	3.5	
Gate to drain charge	Q <sub>gd</sub>			14		
Switching charge	Q <sub>sw</sub>			16	24	
Gate charge total	Q <sub>g</sub>			40	54	
Output charge	Q <sub>oss</sub>	V <sub>DD</sub> =-15V, V <sub>GS</sub> =0V		14	19	nC
Reverse recovery time	t <sub>rr</sub>	V <sub>R</sub> =15V, I <sub>F</sub> =-9.1A, diF/dt =100A/ μ s		19	24	ns
Reverse recovery charge	Q <sub>rr</sub>			9	11	nC
Diode continuous forward current	I <sub>S</sub>	T <sub>A</sub> =25°C			-2.1	A
Diode pulse curret	I <sub>SM</sub>				-36.5	A
Diode forward voltage	V <sub>SD</sub>	V <sub>GS</sub> =0 V, I <sub>F</sub> =-9.1 A, T <sub>J</sub> =25°C		-0.88	-1.2	V