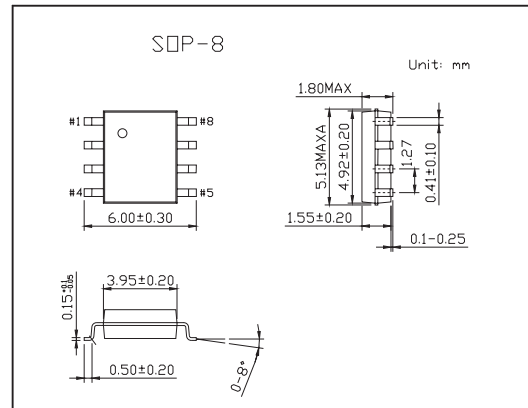
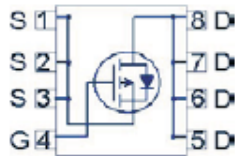


MOS Small Signal Transistor

KSO200P03S(BSO200P03S)

■ Features

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



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	≤ 10 secs	steady state	Unit
Continuous drain current $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-9.1	-7.4	A
		-7.3	-5.9	
Pulsed drain current $T_A=25^\circ\text{C}$	I_{DP}	-37		A
Avalanche energy, single pulse *1	EAS	98		mJ
Reverse diode dv/dt *2	dv/dt	-6		$\text{kV}/\mu\text{s}$
Gate source voltage	V_{GS}	± 25		V
Power dissipation	P_D	2.36	1.56	W
Thermal resistance, junction - soldering point	R_{thJS}	35		K/W
Thermal resistance, junction - ambient	R_{thJA}	110		K/W
Operating and storage temperature	T_j, T_{stg}	-55 to 150		$^\circ\text{C}$

*1 $I_D=-9.1\text{A}$, $R_{GS}=25\ \Omega$

*2 $I_D=-9.1\text{A}$, $V_{DS}=20\text{V}$, $di/dt=200\text{A}/\mu\text{s}$, $T_{j,max}=150^\circ\text{C}$

KSO200P03S(BSO200P03S)

■ Electrical Characteristics Ta = 25 °C

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