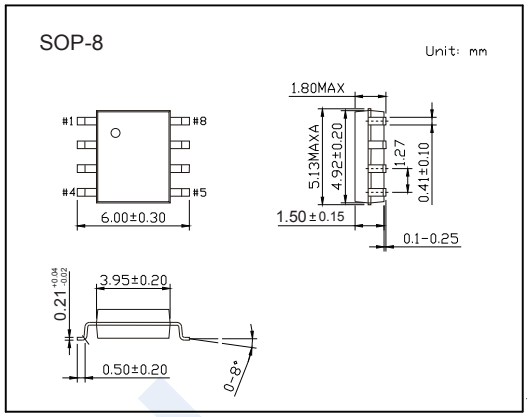
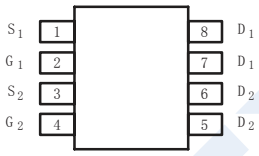
Dual N-Channel MOSFET

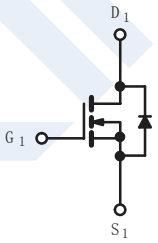
SI9926BDY-HF (KI9926BDY-HF)

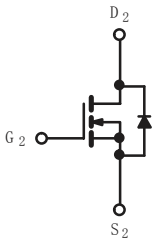
■ Features

- $R_{DS(on)}$ = 0.027 Ω @ V_{GS} = 4.5 V
- $R_{DS(on)}$ = 0.036 Ω @ V_{GS} = 2.5 V.
- Pb−Free Package May be Available. The G−Suffix Denotes a Pb−Free Lead Finish









■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	10 sec	Steady State	Unit
Drain-Source Voltage	V_{DS}	20		V
Gate-Source Voltage	V_{GS}	±10		V
Continuous Drain Current	I_D	8.2	6.2	A
Pulsed Drain Current	I_{DM}	30		A
Maximum Power Dissipation @T_A = 25℃	P_D	2.0	1.14	W
@T_A = 70℃		1.3	0.72	W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	110		℃/W
Jumction temperature and Storage temperature	T_j.T_{stg}	-55 to +150		℃

Dual N-Channel MOSFET

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	V_{GS} = 0 V, I_D = 250 μA	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 20V , V_{GS} = 0V			1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250uA	0.5		1.5	V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V , V_{GS} = ±8V			±100	nA
Drain-Source On-State Resistance *	$R_{DS(on)}$	V_{GS} = 4.5V , I_D = 8.5A			0.027	Ω
		V_{GS} = 2.5V , I_D = 3.3A			0.036	
On-State Drain Current *	$I_{D(on)}$	V_{DS} = 5V , V_{GS} = 4.5V	30			A
Forward Transconductance *	g_{fs}	V_{DS} = 15V , I_D =8.2A		29		S
Total Gate Charge	Q_g	V_{DS} = 10V , V_{GS} = 4.5V , I_D = 8.2A		11	20	nC
Gate-Source Charge	Q_{gs}			2.5		
Gate-Drain Charge	Q_{gd}			3.2		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 10V, I_D = 1A , V_{GS} = 4.5V , R_G = 6Ω ,R_L = 10 Ω		36	57	ns
Rise Time	t_r			52	78	
Turn-Off Delay Time	$t_{d(off)}$			32	50	
Fall Time	t_f			15	25	
Maximum Continuous Drain-Source Diode Forward Current	I_S				0.95	A
Diode Forward Voltage *	V_{SD}	I_S = 1.7A, V_{GS} = 0 V		0.8	1.2	V

* Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2 %.

■ Marking

Marking	9926B KA**** F