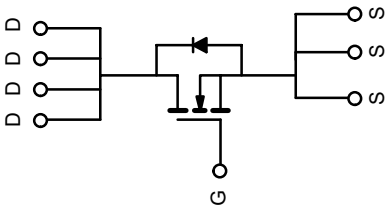
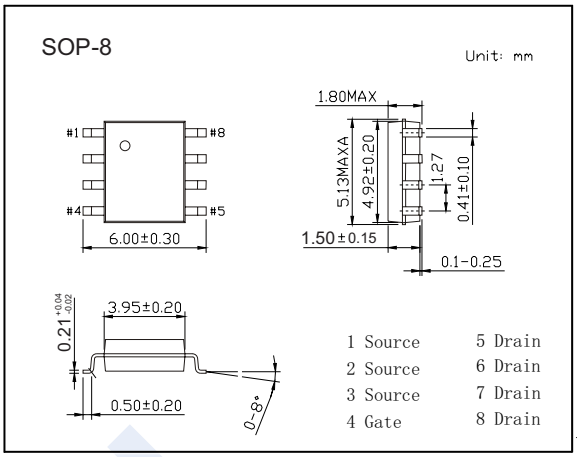
N-Channel Trench Power MOSFET
EMB16N06G

■ Features

- $V_{DS\ (V)}$ = 60V
- I_D = 20 A (V_{GS} = ±20V)
- $R_{DS(ON)}$ < 15mΩ (V_{GS} =10V)





■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage （V_{GS}=0V）		V_{DS}	60	V
Gate-Source Voltage （V_{DS}=0V）		V_{GS}	±20	
Continuous Drain Current	TC=25℃	I_D	20	A
	TC=100℃		14	
Pulsed Drain Current		I_{DM}	80	
Power Dissipation	TC=25℃	P_D	2.5	W
	TC=100℃		1.6	
Thermal Resistance.Junction- to-Abmient		R_{thJA}	50	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	60			V
Drain-to-Source Leakage Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V,Tc=25℃			1	μA
		V_{DS}=60V, V_{GS}=0V,Tc=100℃			5	
Gate-to-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	1		3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A			15	mΩ
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=15A	7			S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, f=1.0MHz		2489		pF
Output Capacitance	C_{oss}			276		
Reverse Transfer Capacitance	C_{rss}			128		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=15A		80		nC
Gate Source Charge	Q_{gs}			19		
Gate Drain Charge	Q_{gd}			37		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=30V, R_L=2.5Ω, R_{GEN}=3Ω		15		ns
Turn-On Rise Time	t_r			25		
Turn-Off DelayTime	$t_{d(off)}$			50		
Turn-Off Fall Time	t_f			23		
Body Diode Reverse Recovery Time *1	t_{rr}	I_F= 15A, di/dt= 100A/μs,TJ=25℃		24		
Body Diode Reverse Recovery Charge *1	Q_{rr}			30		nC
Forward Turn-on Time	t_{on}	Intrinsic turn-on time is negligible(turn-on is dominated by LS+LD)				
Source-Drain Current(Body Diode)	I_S			20		A
Pulsed Source-Drain Current(Body Diode)	I_{SDM}			80		
Diode Forward Voltage *1	V_{SD}	I_S=20A,V_{GS}=0V,TJ=25℃			1	V

Notes：*1.Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 1.5%, Starting T_J=25℃

■ Marking

Marking	16N06 KC***