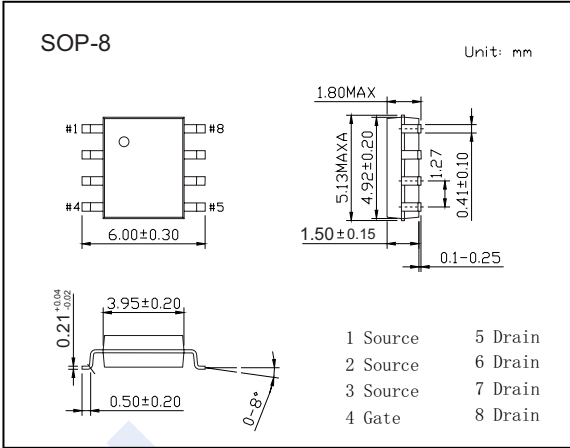
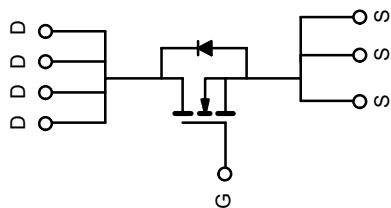


N-Channel Trench Power MOSFET
EMB16N06G

■ Features

- $V_{DS}(V) = 60V$
- $I_D = 20\text{ A}$ ($V_{GS} = \pm 20V$)
- $R_{DS(ON)} < 15\text{ m}\Omega$ ($V_{GS} = 10V$)



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

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	$TC=25^\circ\text{C}$	I_D	20	A
	$TC=100^\circ\text{C}$		14	
Pulsed Drain Current		I_{DM}	80	
Power Dissipation	$TC=25^\circ\text{C}$	P_D	2.5	W
	$TC=100^\circ\text{C}$		1.6	
Thermal Resistance.Junction- to-Abmient		R_{thJA}	50	$^\circ\text{C/W}$
Junction Temperature		T_J	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55 to 150	

N-Channel Trench Power MOSFET

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■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μ A, V _{GS} =0V	60			V
Drain-to-Source Leakage Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V,T _C =25℃			1	μ A
		V _{DS} =60V, V _{GS} =0V,T _C =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 =250 μ A	1		3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A			15	m Ω
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 =2.5 Ω , R _{GEN} =3 Ω		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/ μ s,T _J =25℃		24		nC
Body Diode Reverse Recovery Charge *1	Q _{rr}			30		
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,T _J =25℃			1	V

Notes: *1.Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 1.5\%$, Starting $T_J=25^\circ\text{C}$

■ Marking

Marking	16N06 KC***
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