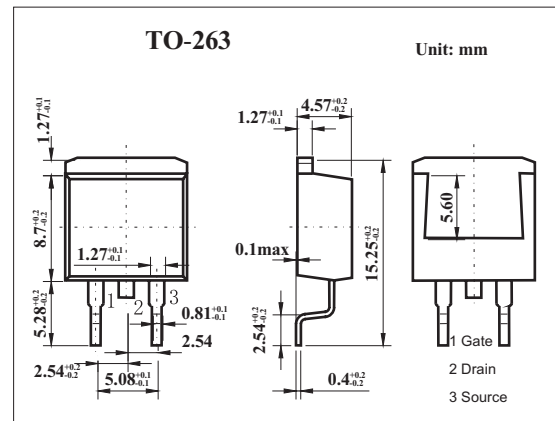
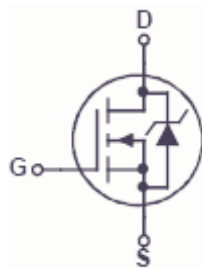


200V N-Channel PowerTrench MOSFET

KDB2670(FDB2670)

■ Features

- 19 A, 200 V. $R_{DS(ON)} = 130 \text{ m}\Omega$ @ $V_{GS} = 10 \text{ V}$
- Low gate charge (27 nC typical)
- Fast switching speed
- High performance trench technology for extremely low $R_{DS(ON)}$
- High power and current handling capability



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	200	V
Gate to source voltage	V_{GSS}	± 20	V
Drain current-Continuous	I_D	19	A
Drain current-Pulsed	I_{DP}	40	A
Power dissipation	P_D	93	W
Derate above 25°C		0.63	W/ $^\circ\text{C}$
Peak Diode Recovery dv/dt	dv/dt	3.2	V/ns
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.6	$^\circ\text{C}/\text{W}$
Channel temperature	T_{ch}	175	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 to +175	$^\circ\text{C}$

KDB2670(FDB2670)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain to source breakdown voltage	V _{DSS}	I _D =250μA, V _{GS} =0V	200			V
Drain cut-off current	I _{DSS}	V _{DS} =160V, V _{GS} =0			1	μA
Gate leakage current	I _{GSS}	V _{GS} =±20V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2.0	4	4.5	V
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =10V, I _D =10A		98	130	mΩ
		V _{GS} =10V, I _D =10A, T _J =125°C		205	285	
On-State Drain Current	I _{D(on)}	V _{GS} = 10 V, V _{DS} = 10 V	20			A
Forward Transconductance	g _{FS}	V _{DS} = 10 V, I _D = 10 A		24		S
Input capacitance	C _{iss}	V _{DS} =100V, V _{GS} =0, f=1MHZ		1320		pF
Output capacitance	C _{oss}			71		pF
Reverse transfer capacitance	C _{rss}			24		pF
Total Gate Charge	Q _g	V _{DS} = 100 V, I _D = 10 A, V _{GS} = 10 V*		27	38	nC
Gate-Source Charge	Q _{gs}			7		nC
Gate-Drain Charge	Q _{gd}			10		nC
Turn-On Delay Time	t _{d(ON)}	V _{DD} = 100V, I _D = 1 A, V _{GS} = 10 V, R _{GEN} = 6 Ω*		14	25	ns
Rise Time	t _r			5	10	ns
Turn-Off Delay Time	t _{d(OFF)}			26	41	ns
Fall Time	t _f			23	37	ns
Maximum Continuous Drain-Source Diode Forward Current	I _S				19	A
Source to Drain Diode Voltage	V _{SD}	V _{GS} = 0 V, I _S = 11 A *		0.83	1.3	V

* Pulse Test: Pulse Width < 300μs, Duty Cycle < 2.0%