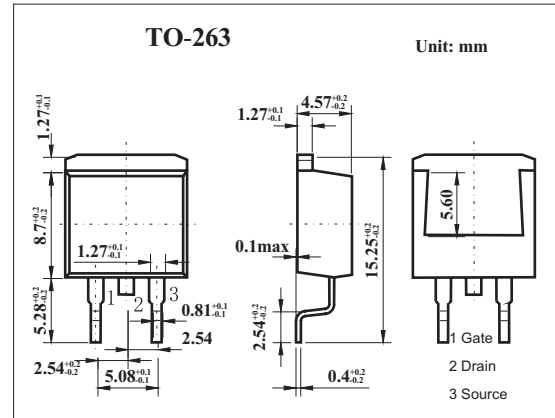
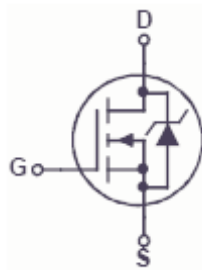


150V N-Channel PowerTrench MOSFET

KDB2570(FDB2570)

■ Features

- 22 A, 150 V. $R_{DS(ON)} = 80 \text{ m}\Omega$ @ $V_{GS} = 10 \text{ V}$
 $R_{DS(ON)} = 90 \text{ m}\Omega$ @ $V_{GS} = 6 \text{ V}$
- Low gate charge
- Fast switching speed
- High performance trench technology for extremely low $R_{DS(ON)}$



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	150	V
Gate to source voltage	V_{GS}	± 20	V
Drain current-Continuous	I_D	22	A
Drain current-Pulsed	I_{DP}	50	A
Power dissipation	P_D	93	W
Derate above 25°C		0.63	W/ $^\circ\text{C}$
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}	-55 to +175	$^\circ\text{C}$

KDB2570(FDB2570)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain to source breakdown voltage	V _{DSS}	I _D =250μA, V _{GS} =0V	150			V
Drain cut-off current	I _{DSS}	V _{DS} =120V, 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	2.6	4.0	V
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =10V, I _D =11A		61	80	mΩ
		V _{GS} =6V, I _D =10A		63	90	
		V _{GS} =10V, I _D =11A, T _C =125°C		127	175	
On-State Drain Current	I _{D(on)}	V _{GS} = 10 V, V _{DS} = 10 V	25			A
Forward Transconductance	g _{FS}	V _{DS} = 10 V, I _D = 11 A		39		S
Input capacitance	C _{iss}	V _{DS} =75V, V _{GS} =0, f=1MHZ		1911		pF
Output capacitance	C _{oss}			106		pF
Reverse transfer capacitance	C _{rss}			33		pF
Total Gate Charge	Q _g	V _{DS} = 75 V, I _D = 11 A, V _{GS} = 10 V*		40	56	nC
Gate-Source Charge	Q _{gs}			7		nC
Gate-Drain Charge	Q _{gd}			12		nC
Turn-On Delay Time	t _{d(ON)}	V _{DD} = 75 V, I _D = 1 A, V _{GS} = 10 V, R _{GEN} = 6 Ω*		12	22	ns
Rise Time	t _r			5	10	ns
Turn-Off Delay Time	t _{d(OFF)}			33	53	ns
Fall Time	t _f			23	37	ns
Maximum Continuous Drain-Source Diode Forward Current	I _S				22	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%