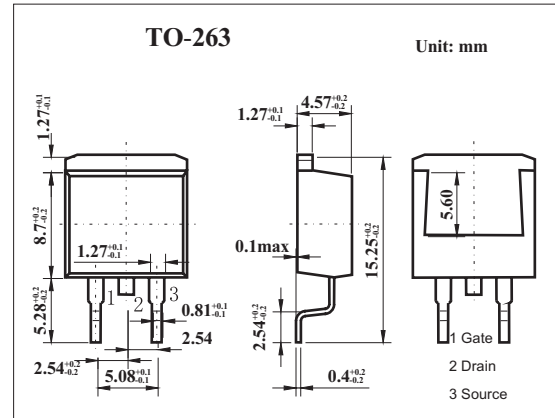
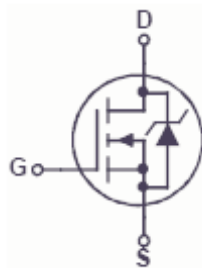


N-Channel PowerTrench MOSFET

KDB3632(FDB3632)

■ Features

- $r_{DS(ON)} = 7.5\text{m}\Omega$ (Typ.), $V_{GS} = 10\text{V}$, $I_D = 80\text{A}$
- $Q_{g(tot)} = 84\text{nC}$ (Typ.), $V_{GS} = 10\text{V}$
- Low Miller Charge
- Low QRR Body Diode
- UIS Capability (Single Pulse and Repetitive Pulse)



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	100	V
Gate to source voltage	V_{GSS}	± 20	V
Drain current-Continuous	I_D	$T_c < 111^\circ\text{C}$	80
		$T_A = 25^\circ\text{C}$	12
Power dissipation	P_D		310
		Derate above 25°C	2.07
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	43	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	0.48	$^\circ\text{C}/\text{W}$
Channel temperature	T_{ch}	175	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +175	$^\circ\text{C}$

KDB3632(FDB3632)

■ 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	100			V
Drain cut-off current	I _{DSS}	V _{Ds} =80V, V _{GS} =0			1	μA
		V _{Ds} =80V, V _{GS} =0, T _c =150°C			250	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		4.0	V
Drain to source on-state resistance	R _{Ds(on)}	V _{GS} =10V, I _D =80A		0.0075	0.009	Ω
		V _{GS} =6V, I _D =40A		0.009	0.015	
		V _{GS} =10V, I _D =80A, T _c =175°C		0.018	0.022	
Input capacitance	C _{iss}	V _{Ds} =25V, V _{GS} =0, f=1MHZ		6000		pF
Output capacitance	C _{oss}			820		pF
Reverse transfer capacitance	C _{rss}			200		pF
Total Gate Charge at 10V	Q _{g(TOT)}	V _{GS} = 0V to 10V		84	110	nC
Threshold Gate Charge	Q _{g(TH)}	V _{GS} = 0V to 2V		11	14	nC
Gate to Source Gate Charge	Q _{gs}	V _{Ds} = 50 V, I _D = 80A, I _g =1.0mA		30		nC
Gate Charge Threshold to Plateau	Q _{gs2}			20		nC
Gate to Drain "Miller" Charge	Q _{gd}			20		nC
Turn-On Time	t _{ON}				102	ns
Turn-On Delay Time	t _{d(ON)}	V _{DD} = 50 V, I _D = 80A, V _{GS} = 10 V, R _{GEN} = 3.6 Ω		30		ns
Rise Time	t _r			39		ns
Turn-Off Delay Time	t _{d(OFF)}			96		ns
Fall Time	t _f			46		ns
Turn-Off Time	t _{OFF}				213	ns
Source to Drain Diode Voltage	V _{SD}		I _{SD} =80A			1.25
		I _{SD} =40A			1.0	V
Reverse Recovery Time	t _{rr}	I _{SD} = 75A, di _{SD} /dt =100A/μs			64	ns
Reverse Recovered Charge	Q _{RR}	I _{SD} = 75A, di _{SD} /dt =100A/μs			120	nC