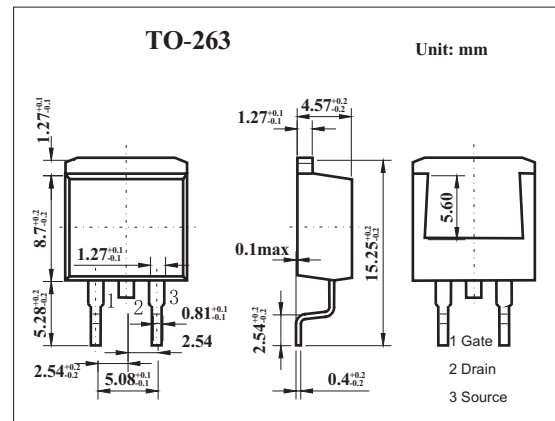
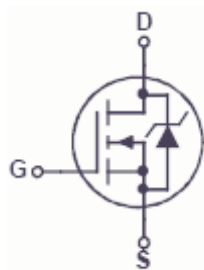


N-Channel PowerTrench MOSFET

KDB2552(FDB2552)

■ Features

- $r_{DS(ON)} = 32\text{m}\Omega$ (Typ.), $V_{GS} = 10\text{V}$, $I_D = 16\text{A}$
- $Q_{g(tot)} = 39\text{nC}$ (Typ.), $V_{GS} = 10\text{V}$
- Low Miller Charge
- Low Q_{RR} 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}	150	V
Gate to source voltage	V _{GSS}	±20	V
Drain current-Continuous T _C =25°C T _A =25°C	I _D	37	A
		5	A
Power dissipation	P _D	150	W
Derate above 25°C		1.0	W/°C
Thermal Resistance Junction to Ambient	R _{θJA}	43	°C/W
Channel temperature	T _{ch}	175	°C
Storage temperature	T _{stg}	-55 to +175	°C

KDB2552(FDB2552)

■ Electrical Characteristics Ta = 25℃

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 _D =120V, V _{GS} =0			1	μ A
		V _D =120V, V _{GS} =0, T _C =150℃			250	
Gate leakage current	I _{GSS}	V _{GS} =±20V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _D = V _{GS} , I _D = 250μA	2.0		4.0	V
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =10V, I _D =16A		0.032	0.036	Ω
		V _{GS} =6V, I _D =8A		0.036	0.054	
		V _{GS} =10V, I _D =16A, T _C =175℃		0.084	0.097	
Input capacitance	C _{iss}	V _D =25V, V _{GS} =0, f=1MHZ		2800		pF
Output capacitance	C _{oss}			285		pF
Reverse transfer capacitance	C _{rss}			55		pF
Total Gate Charge at 10V	Q _{g(TOT)}	V _{GS} = 0V to 10V		39	51	nC
Threshold Gate Charge	Q _{g(TH)}	V _{GS} = 0V to 2V		5.2	6.8	nC
Gate to Source Gate Charge	Q _{gs}	V _D = 75V,		13.5		nC
Gate Charge Threshold to Plateau	Q _{gs2}	I _g =1.0mA		8.4		nC
Gate to Drain "Miller" Charge	Q _{gd}	I _D = 16A		8.3		nC
Turn-On Time	t _{ON}	V _{DD} = 75V, I _D = 16A V _{GS} = 10V, R _{GS} = 8.2 Ω			62	ns
Turn-On Delay Time	t _{d(ON)}			12		ns
Rise Time	t _r			29		ns
Turn-Off Delay Time	t _{d(OFF)}			36		ns
Fall Time	t _f			29		ns
Turn-Off Time	t _{OFF}				97	ns
Reverse Recovery Time	t _{rr}	I _{SD} = 16A, di _{SD} /dt = 100A/μs			90	ns
Reverse Recovered Charge	Q _{Rr}	I _{SD} = 16A, di _{SD} /dt = 100A/μs			242	nC
Source to Drain Diode Voltage	V _{SD}	I _{SD} = 16A			1.25	V
		I _{SD} = 8A			1.0	V