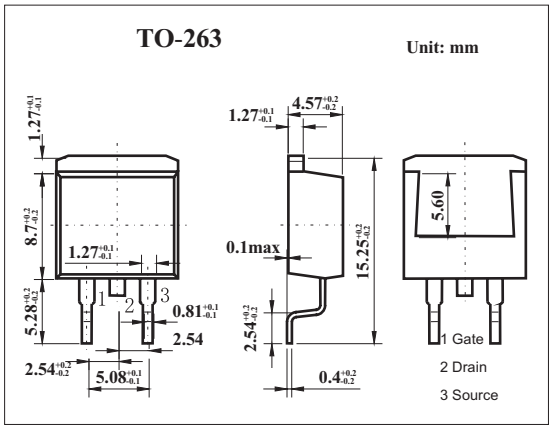
TY Semicondutor®

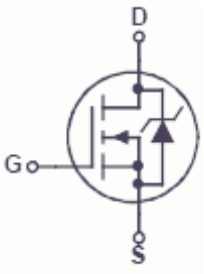
Product specification

KDB2552(FDB2552)

■ Features

- $r_{DS(ON)}$ = 32mΩ (Typ.), V_{GS} = 10V, I_D = 16A
- $Q_{g(tot)}$ = 39nC (Typ.), V_{GS} = 10V
- Low Miller Charge
- Low Q_{RR} Body Diode
- UIS Capability (Single Pulse and Repetitive Pulse)





■ Absolute Maximum Ratings Ta = 25℃

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℃	I_D	37	A
T_A=25℃		5	A
Power dissipation	P_D	150	W
Derate above 25℃		1.0	W/℃
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	43	℃/W
Channel temperature	T_{ch}	175	℃
Storage temperature	T_{stg}	-55 to +175	℃

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	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
		V_{DS}=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_{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=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_{DS}=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_{DS} = 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