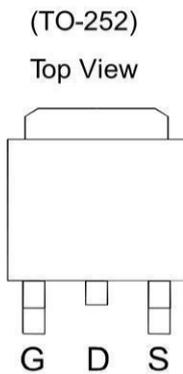**TECH PUBLIC**

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Features

- V_{DS} -100V
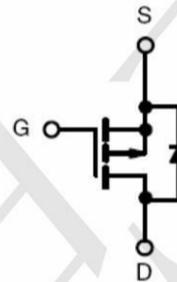 I_D -13A
  $R_{DS(ON)}$ (at V_{GS}=-10V) < 210mΩ

Application

- Load/Power Switching
- Interfacing Switching
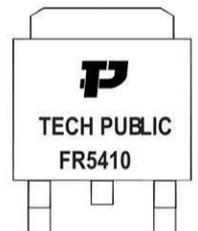- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Package and Pin Configuration

(TO-252)
Top View

G   D   S

1. GATE
2. DRAIN
3. SOURCE

Marking:

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Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	-13	A
Pulsed Drain Current ①	I_{DM}	-30	
Continuous Source-Drain Current(Diode Conduction)	I_S	13	
Power Dissipation ②	P_D	66	W
Thermal Resistance from Junction to Ambient (t≤5s)	$R_{θJA}$	110	℃/W
Operating Junction	T_J	175	℃
Storage Temperature	T_{STG}	-55~+175	℃

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Parameters						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS = 0V, ID = -250μA	-100			V
Gate Threshold Voltage	$V_{GS(th)}$	VDS =VGS, ID = -250μA	-1.0	-1.8	-3.0	V
Gate-Body leakage Current	I_{GSS}	VDS =0V, VGS = ±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	VDS = -100V, VGS =0V			-1	μA
Static Drain-Source On-Resistance	$R_{DS(on)}$	VGS = -10V, ID = -6A		180	210	mΩ
Forward Transconductance	gfs	VDS = -50V, ID = -12A		3.2		S
Diode Forward Voltage	V_{SD}	IS= -1A, VGS=0V		-0.8	-1.2	V
Dynamic Parameters						
Input Capacitance	Ciss	VDS = -30V, VGS =0V, f=1MHz		760		pF
Output Capacitance	Coss			260		pF
Reverse Transfer Capacitance	Crss			170		pF
Total Gate Charge	Qg	VDS = -80V, VGS = -10V, ID = -12A		58		nC
Gate Source Charge	Qgs			8.3		nC
Gate Drain Charge	Qgd			32		nC
Switching Parameters						
Turn-On DelayTime	td(on)	VDD= -50V RL= 10Ω, ID = -8.4A, VGEN= -10V,Rg= 9Ω		130		ns
Turn-On Rise Time	tr			130		ns
Turn-Off DelayTime	td(off)			135		ns
Turn-Off Fall Time	tf			140		ns

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TO252 Package Information
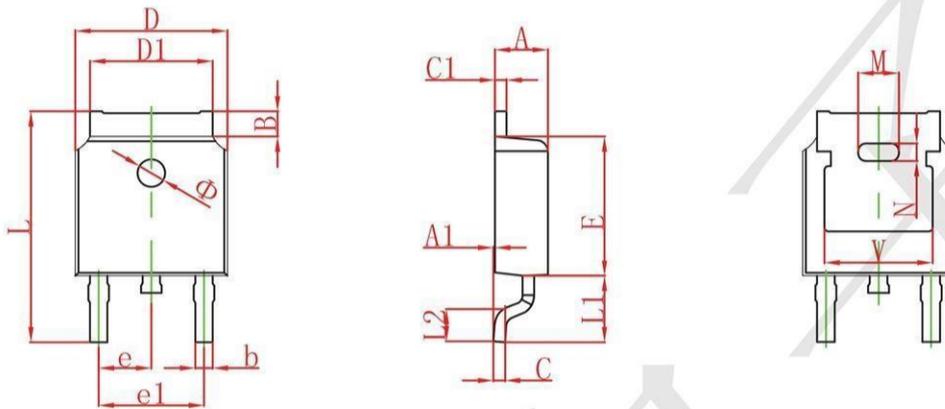
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286 TYP.		0.090 TYP.	
e1	4.327	4.727	0.170	0.186
M	1.778REF.		0.070REF.	
N	0.762REF.		0.018REF.	
L	9.800	10.400	0.386	0.409
L1	2.9REF.		0.114REF.	
L2	1.400	1.700	0.055	0.067
V	4.830 REF.		0.190 REF.	
Φ	1.100	1.300	0.043	0.051