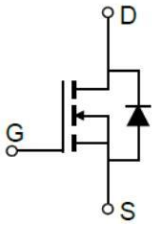
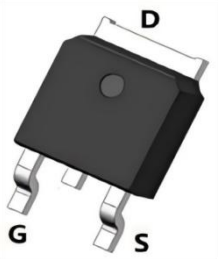
N-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	200	V
$R_{DS(max)}$	60	mΩ
I_D	40	A





TO-252

Features

- Low On-Resistance
- High Reliability Capability with Passivation
- 100% avalanche tested

Applications

- DC-DC Converters
- Power switching application

Absolute Maximum Ratings (T_C=25℃,unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	±25	V
Continuous Drain Current @T_C=25℃	I_D	40	A
Continuous Drain Current @T_C=100℃	I_D	32	A
Pulsed Drain Current	I_{DM}	120	A
Single Pulse Avalanche Energy	E_{AS}	358	mJ
Total Power Dissipation @T_C=25℃	P_D	135	W
Operating and Storage Temperature Range	T_{STG}; T_J	-55 to 150	℃

Thermal Data

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction-ambient	$R_{\theta JA}$	--	62	℃/W
Thermal Resistance Junction -Case	$R_{\theta JC}$	--	0.93	℃/W

Electrical Characteristics(T_J=25℃,unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	200	--	--	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=200V, V_{GS}=0V	--	--	1.0	μA
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}= ±25V	--	--	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	3	--	5	V
Static Drain-Source on-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	--	--	60	mΩ
Forward Transconductance	gfs	V_{DS}=10V, I_D=15A	--	18	--	S
Gate Resistance	R_g	V_{DS}=0V , V_{GS}=0V f=1MHz	--	2.7	--	Ω
Input Capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V f=1.0MHz	--	2500	--	pF
Output Capacitance	C_{oss}		--	200	--	pF
Reverse Transfer Capacitance	C_{rss}		--	100	--	pF
Total Gate Charge	Q_g	V_{DS}=100V, I_D=5.9A V_{GS}=6V	--	35	--	nC
Gate-Source Charge	Q_{gs}		--	15	--	nC
Gate-Drain Charge	Q_{gd}		--	16	--	nC
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=100V,V_{GS}=10V R_L=7.5Ω, R_{GEN}=3Ω	--	8	--	ns
Turn-on Rise Time	t_r		--	10	--	ns
Turn-off Delay Time	$t_{d(off)}$		--	26	--	ns
Turn-off Fall Time	t_f		--	6	--	ns

Diode Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Diode continuous forward current	I_S	V_G=V_D=0V , Force Current	--	--	40	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=28A ,T_J=25℃	--	--	1.2	V

Notes:

1. The test condition is VDD=50V,VGS=10V,L=0.5mH,ID=42A

Typical Characteristics

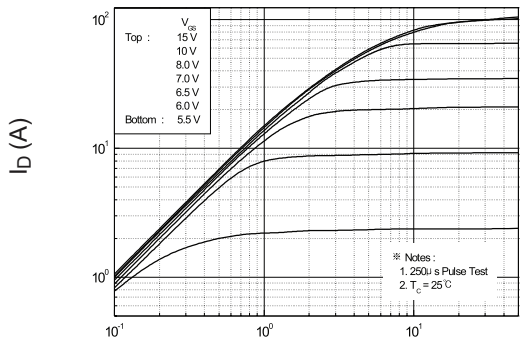


Fig 1. Output Characteristics

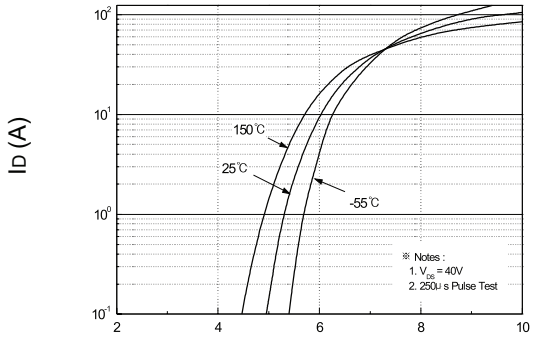


Fig 2. transfer characteristics

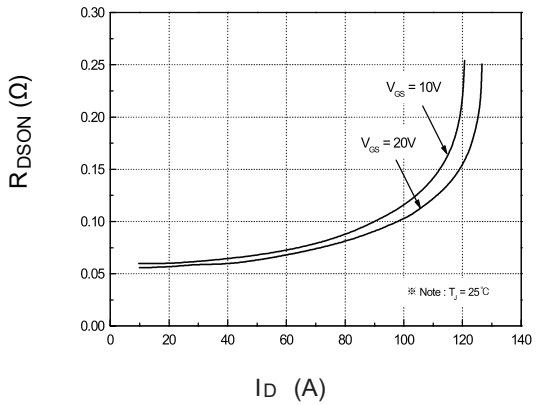


Fig 3. On-Resistance vs. Drain Current

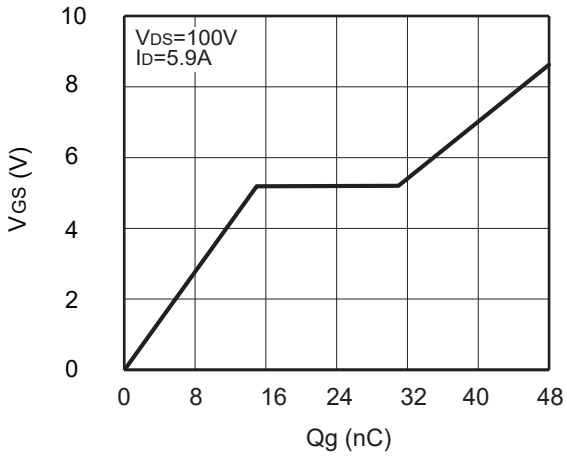


Fig 4. Gate charge vs gate-source voltage

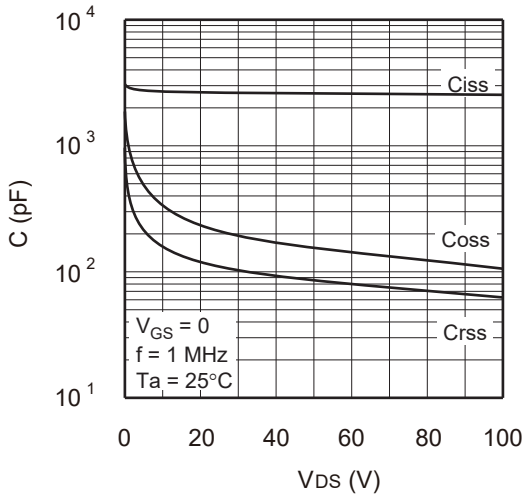


Fig 5. Capacitance Characteristics

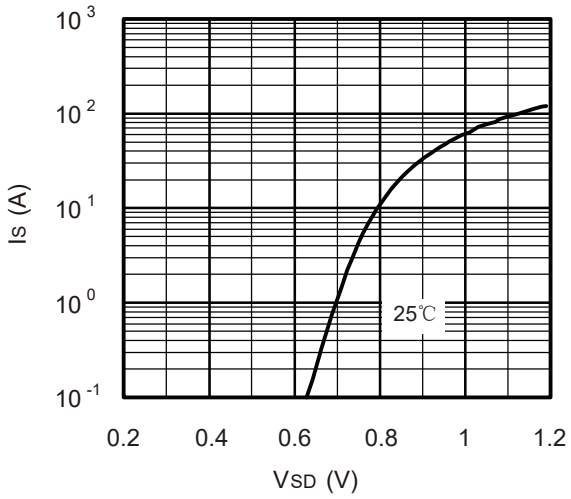
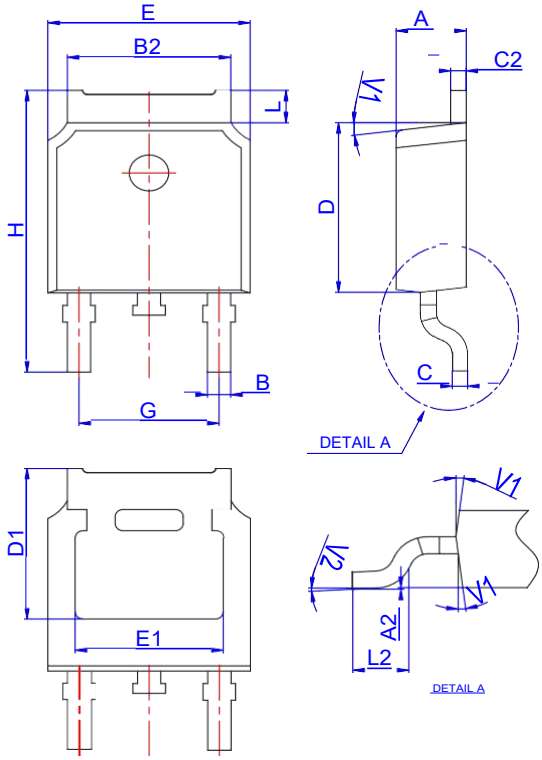


Fig 6. Body-Diode Characteristics

Package Outline (Units: mm)

TO-252



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

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