



PRODUCT DATA SHEET

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Datasheet



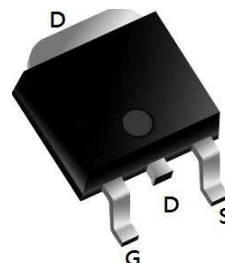
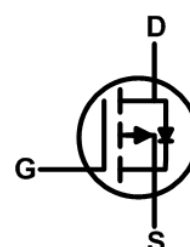
Resources



Samples

Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.jg-semi.cn. Please email any questions regarding the system integration to JINGAO_questions@jgsemi.com.

- ★ 100% EAS Guaranteed
- ★ Green Device Available
- ★ Super Low Gate Charge
- ★ Excellent CdV/dt effect decline
- ★ Advanced high cell density Trench technology


T0252

Table 1. Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Symbol	Parameter	Limit	Unit
V _{DS}	Drain-Source Voltage (V _{GS} =0V)	-60	V
V _{GS}	Gate-Source Voltage (V _{DS} =0V)	±20	V
I _D	Drain Current-Continuous(T _C =25°C)	-30	A
	Drain Current-Continuous(T _C =100°C)	-25.5	A
I _{DM (pluse)}	Drain Current-Continuous@ Current-Pulsed (Note 1)	-144	A
P _D	Maximum Power Dissipation(T _C =25°C)	79	W
	Maximum Power Dissipation(T _C =100°C)	39.5	W
E _{AS}	Avalanche energy (Note 2)	196	mJ
T _J , T _{STG}	Operating Junction and Storage Temperature Range	-55 To 175	°C

Table 2. Thermal Characteristic

Symbol	Parameter	Typ	Max	Unit
R _{θJC}	Thermal Resistance, Junction-to-Case		1.9	°C/W

Table 3. Electrical Characteristics (T_J=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
On/Off States						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V I _D =-250μA	-60			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-60V, V _{GS} =0V			-1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V			±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	-1.5	-2.4	-3.5	V
g _{FS}	Forward Transconductance	V _{DS} =-5V, I _D =-15A		35		S
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} =-10V, I _D =-15A		38	55	mΩ
		V _{GS} =-4.5V, I _D =-10A		54	70	mΩ
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} =-25V, V _{GS} =0V, f=1.0MHz		2616		pF
C _{oss}	Output Capacitance			87		pF
C _{rss}	Reverse Transfer Capacitance			64		pF
Switching Parameters						
t _{d(on)}	Turn-on Delay Time	V _{GS} =-10V, V _{DS} =-30V, R _L =1.5Ω, R _{GEN} =3Ω		8.1		nS
t _r	Turn-on Rise Time			0.65		nS
t _{d(off)}	Turn-Off Delay Time			42		nS
t _f	Turn-Off Fall Time			9.1		nS
Q _g	Total Gate Charge	V _{GS} =-10V, V _{DS} =-30V, I _D =-20A		44		nC
Q _{gs}	Gate-Source Charge			6.8		nC
Q _{gd}	Gate-Drain Charge			8.5		nC
Source-Drain Diode Characteristics						
I _{SD}	Source-Drain Current (Body Diode)				30	A
V _{SD}	Forward on Voltage ^(Note 3)	V _{GS} =0V, I _S =-15A			-1.2	V
t _{rr}	Reverse Recovery Time	I _F =-20A, di/dt=100A/μs		17		ns
Q _{rr}	Reverse Recovery Charge	I _F =-20A, di/dt=100A/μs		19		nC

Notes 1.Repetitive Rating: Pulse width limited by maximum junction temperature.

Notes 2.E_{AS} condition: T_J=25°C, V_{DD}=40V, V_G=-10V, R_g=25Ω, L=0.5mH.

Notes 3.Repetitive Rating: Pulse width limited by maximum junction temperature.

Typical Electrical And Thermal Characteristics (Curves)

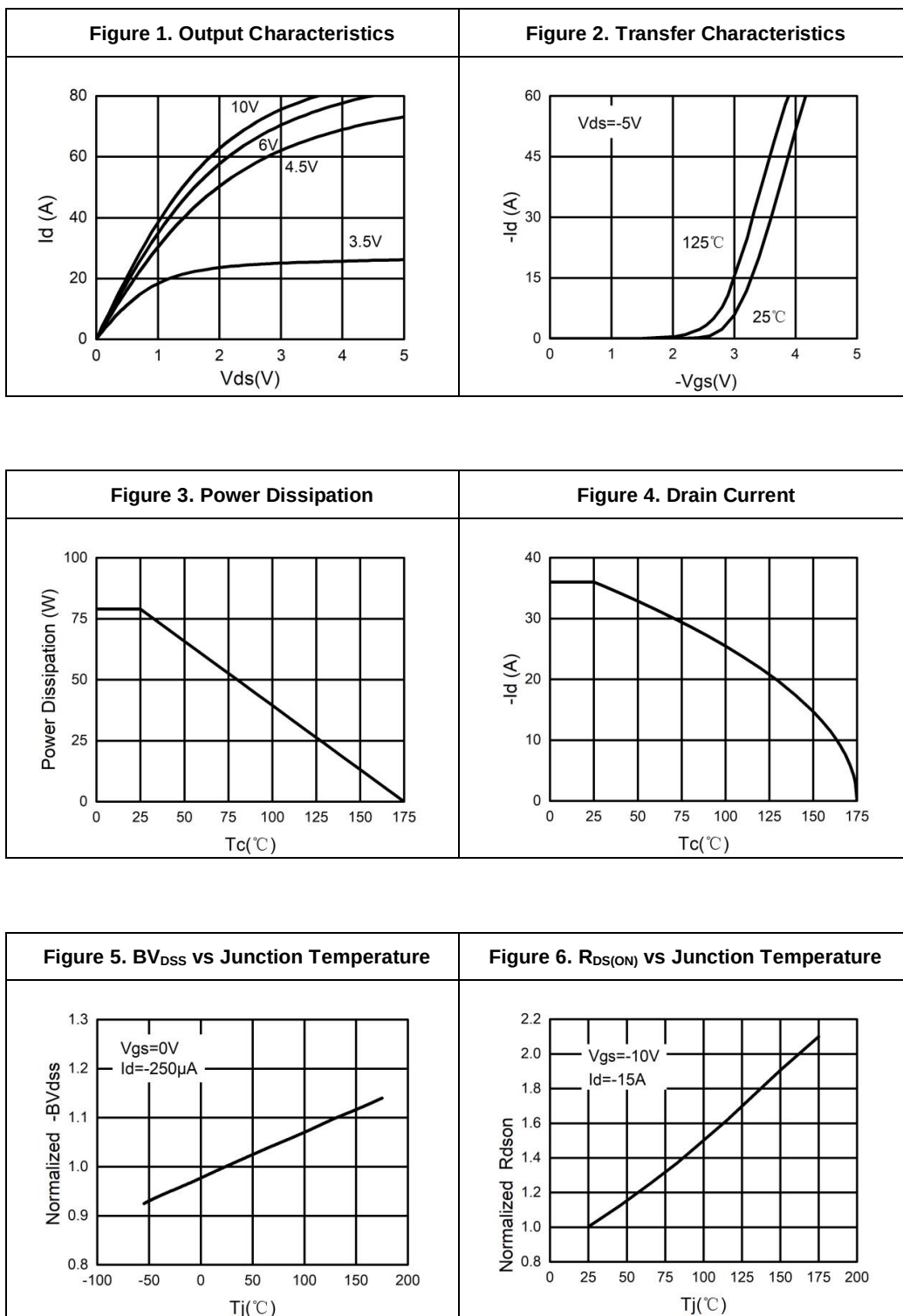
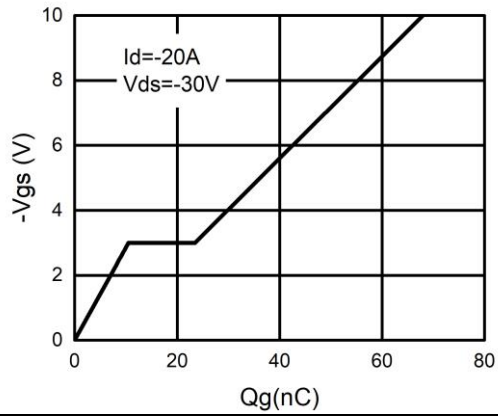
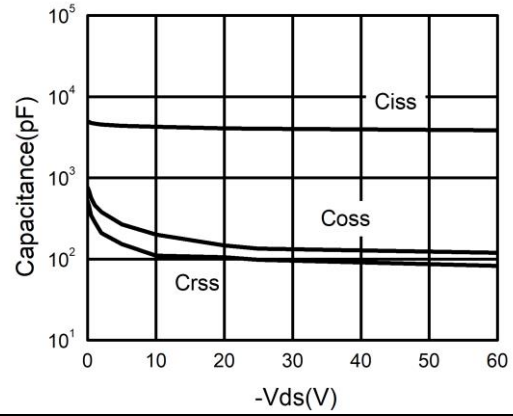
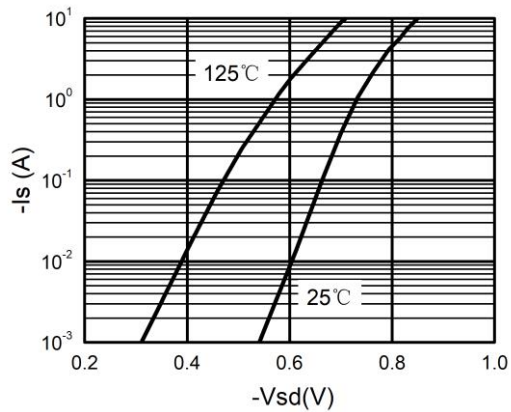
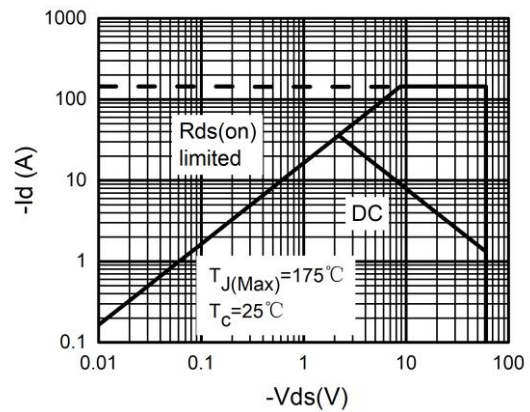
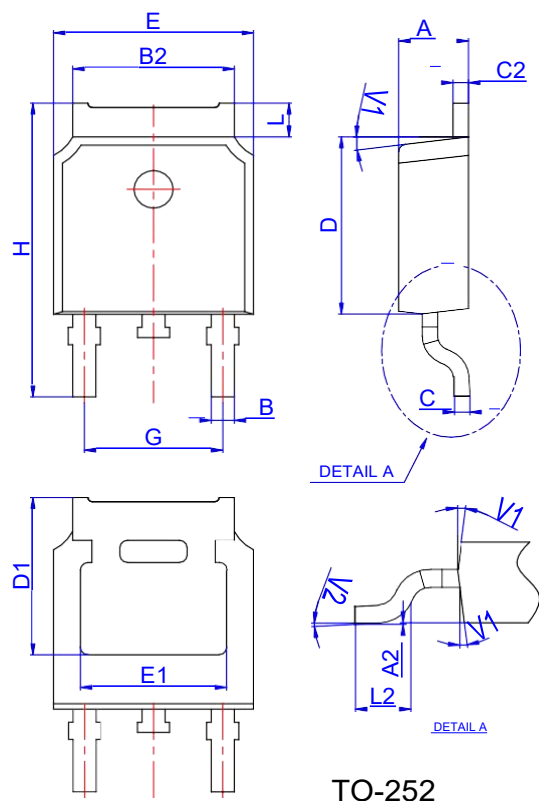


Figure 7. Gate Charge Waveforms

Figure 8. Capacitance

Figure 9. Body-Diode Characteristics

Figure 10. Maximum Safe Operating Area


Package Mechanical Data TO 252 4R



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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