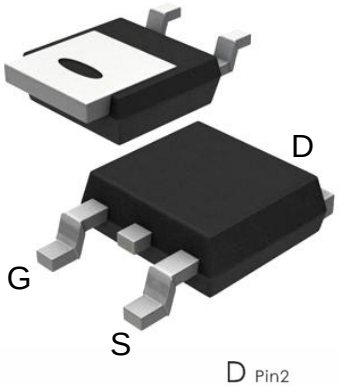
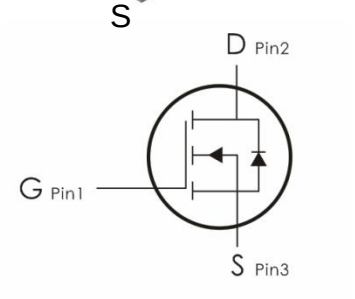
Description：

This N-Channel MOSFET uses advanced Planar technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.





Features：

1) V_{DS}=200V,I_D=9A,$R_{DS(ON)}$<0.3Ω @V_{GS}=10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra low $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.

Package Marking and Ordering Information：

Part NO.	Marking	Package	Packing
DOD4504	D4504	TO- 252	2500 pcs/Reel

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

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	200	V
V_{GS}	Gate-Source Voltage	±30	V
I_D	Continuous Drain Curren	9	A
	Continuous Drain Current-T_C=100℃	4.5	
I_{DM}	Pulsed Drain Current[1]	36	
P_D	Power Dissipation	82	W
E_{AS}	Single pulse avalanche energy[2]	142	mJ
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55-+150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance,Junction to Case	1.52	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	62.5	℃/W

Electrical Characteristics: (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	200	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=200V	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±30V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	2.5	---	3.5	V
$R_{DS(ON)}$	Drain-Source On Resistance[3]	V_{GS}=10V,I_D=4.5A	---	0.22	0.3	Ω
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=25V, V_{GS}=0V, f=1MHz	---	564	---	pF
C_{oss}	Output Capacitance		---	85	--	
C_{rss}	Reverse Transfer Capacitance		---	24	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time[3]	V_{DS}=100V, I_D=5.4A, R_{ENG}=3.5Ω	---	8	---	ns
$t_{d(off)}$	Turn-Off Delay Time[3]		---	26	---	ns
Q_{gs}	Total Gate Charge[3]	V_{GS}=10V, V_{DS}=160V, I_D=4.5A	---	2.3	---	nc
Q_{gd}	Gate-Source Charge[3]		---	3.8	---	nc
Q_g	Gate-Drain “Miller” Charge[3]		---	16.4	---	nc
Drain-Source Diode Characteristics						
V_{SD}	Diode Forward Voltage[3]	V_{GS}=0V, I_{SD}=9A	---	---	1.45	V
I_S	Continuous Drain Curren	VD=VG=0V	---	---	9	A
I_{SM}	Pulsed Drain Current		---	---	36	A
Trr	Reverse Recovery Time[3]	I_F=9A,T_J=25℃ dI/dt=100A/us	---	120	176	ns
Qrr	Reverse Recovery Charge[3]		---	542	815	nc

Notes:

1.Repetitive rating: Pulse width limited by maximum junction temperature

2.Starting Tj=25 ºC, V_{DD} =50V, L=3.5 mH, R_G =25Ω, I_{AS}=9.0A

3.Pulse Test : Pulse width ≤ 300μs, Duty cycle ≤ 2%

Typical Characteristics: (T_C=25℃ unless otherwise noted)

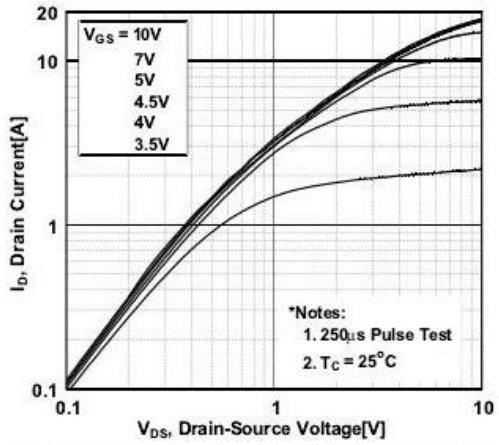


Fig1 Typical Output Characteristics, Tc=25℃

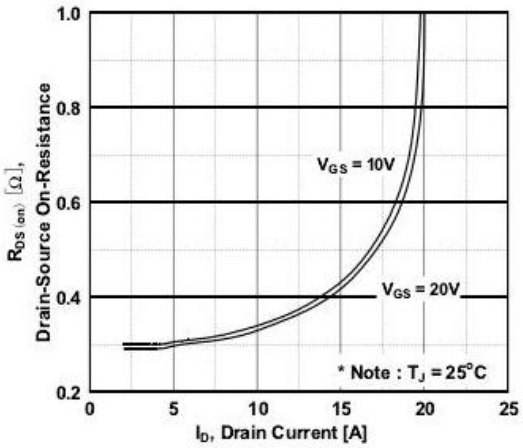


Fig2 On-Resistance Vs.Drain Current and Gate Voltage

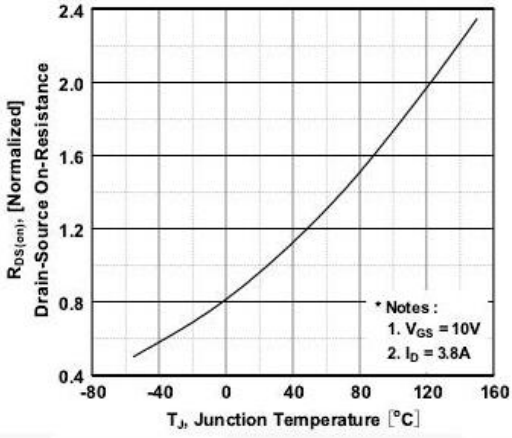


Fig3 Normalized On-Resistance Vs.Temperature

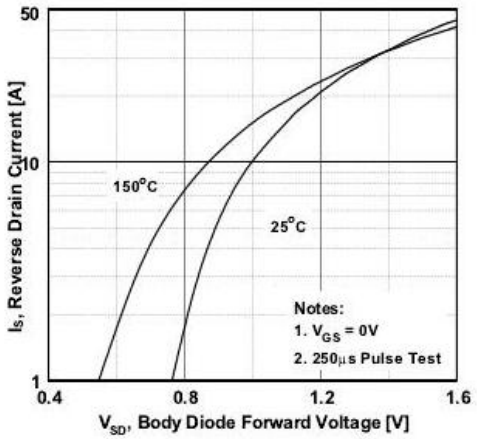


Fig4 Typical Source-Drain Diode Forward Voltage

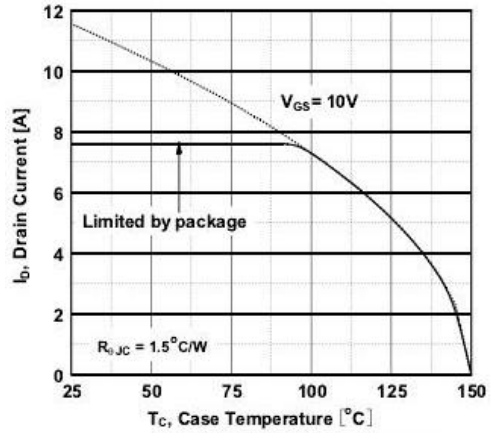


Fig5 Maximum Drain Current Vs.Case Temperature

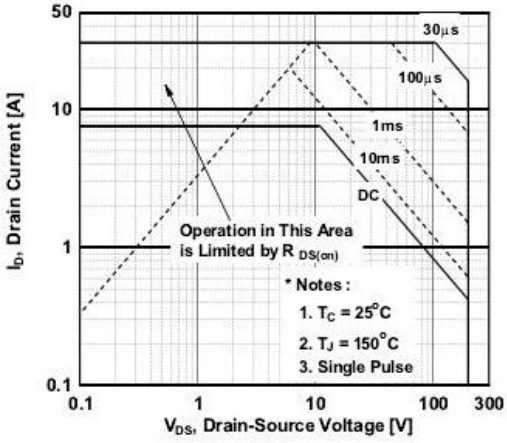
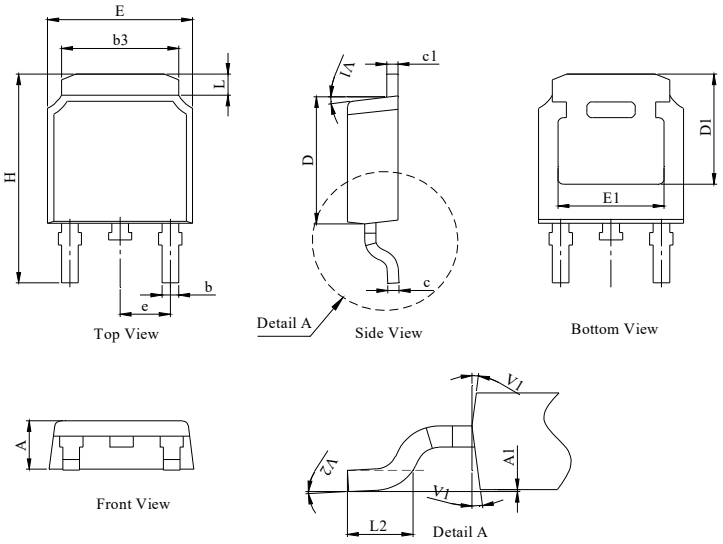


Fig6 Maximum Safe Operating Area

TO-252 Package Information

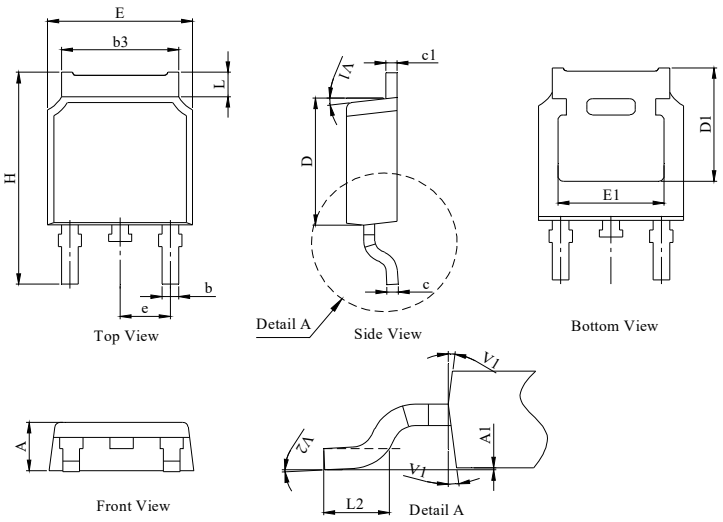
Package Outline Type-A

UNIT: mm



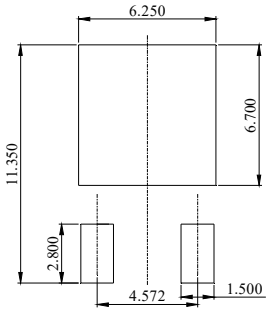
DIM.	MILLIMETER		
	MIN.	NOM.	MAX.
A	2.18	2.30	2.39
A1	0	--	0.13
b	0.64	0.76	0.89
c	0.40	0.50	0.61
c1	0.46	0.50	0.58
D	5.97	6.10	6.23
D1	5.05	--	--
E	6.35	6.60	6.73
E1	4.32	--	--
b3	5.21	5.38	5.55
e	2.29 BSC		
H	9.40	10.00	10.40
L	0.89	--	1.27
L2	1.40	--	1.78
V1	7° REF		
V2	0°	--	6°

Package Outline Type-B



DIM.	MILLIMETER		
	MIN.	NOM.	MAX.
A	2.10	2.30	2.40
A1	0	--	0.13
b	0.66	0.76	0.86
b3	5.21	5.38	5.55
c	0.40	0.50	0.60
c1	0.44	0.50	0.58
D	5.90	6.10	6.30
D1	5.30REF		
E	6.40	6.60	6.80
E1	4.63	-	-
e	2.29 BSC		
H	9.50	10.00	10.70
L	1.09	--	1.21
L2	1.35	--	1.65
V1	7° REF		
V2	0°	--	6°

Recommended Soldering Footprint



Marking Information：

①. Doingter LOGO

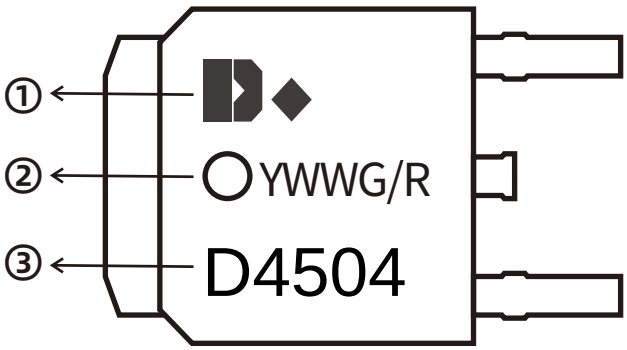
②. Date Code(YWWG / R)

Y：Year Code，last digit of the year

WW：Week Code(01-53)

G/R：G(Green) /R(Lead Free)

③. Part NO.



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