Preliminary Datasheet

N Channel 30V (DS) MOSFET

FEATURES

- Advance Trench Process Technology
- High Density Cell Design for Ultra Low Onresistance

PRODUCTY SUMMARY			
V_{DS}	$R_{DS(on)}$ m(Ω)		I_D(A)
30	7.8	@V_{GS}=10V	19
	12	@V_{GS}=4.5V	15

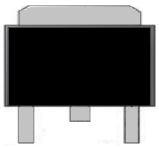
Application

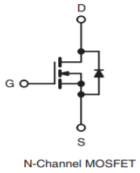
- Portable Devices
- Consumer Electronics

Mechanical

- Case: TO-252 Package

TO-252





Packing Information

Package	Packing
TO-252	2.5K/13" Reel

Maximum Ratings (T_A=25°C unless otherwise specified)			
Parameter	**Symbol**	**Limit**	**Unit**
DrainSource Voltage	V_{DS}	30	V
GateSource Voltage	V_{GS}	±20	V
Continuous Drain Current [1)]	I_D	20	A
Maximum Power Dissipation	P_D	3.2	W
Pulsed Drain Current [2)]	I_{DM}	80	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	55~150	°C

Typical Thermal Resistance			
Parameter	**Symbol**	**Limit**	**Unit**
JunctiontoAmbient Thermal Resistance [3)]	$R_{\theta JA}$	65	°C/W

Note:
1. Fused current that based on wire numbers and diameter
2. Repetitive Rating: Pulse width limited by the maximum junction temperature
3. 1in2 2oz Cu PCB board

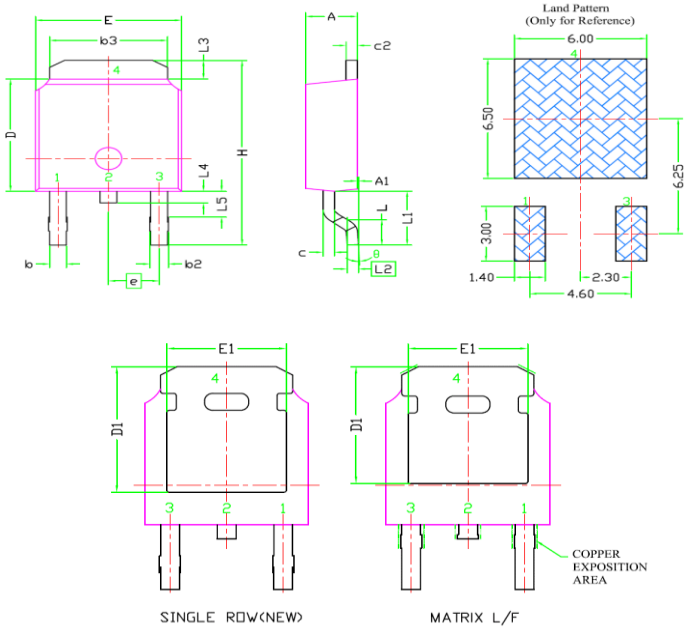
Electrical Characteristics (T_A = 25°C UNLESS OTHERWISE NOTED)						
Characteristics	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Static						
DrainSource Breakdown Voltage	B_{VDSS}	V_{GS} = 0V, I_D =250uA	30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1.00	1.38	3.00	V
DrainSource OnState Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=19A	-	6.7	7.8	mΩ
		V_{GS}=4.5V, I_D=15A	-	10	12	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	VDS=30V, VGS=0V	-	-	1	uA
GateSource Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA

DrainSource Diode						
Maximum Continuous Body Diode Forward Current	I_S	V_G=V_D=0V , Force Current	-	-	1.2	A
Diode Forward Voltage	V_{SD}	IS=1.0A, VGS=0V	-	-	1.5	V

NOTES :
1. Pulse width<300us, Duty cycle<2%.
2. Essentially independent of operating temperature typical characteristics.
3. Repetitive rating, pulse width limited by junction temperature TJ(MAX)=150°C. Ratings are based on low frequency and duty cycles to keep initial TJ =25°C.
4. The maximum current rating is package limited.
5. RQJA is the sum of the junctiontocase and casetoambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. Mounted on a 1 inch2 with 2oz.square pad of copper.
6. Guaranteed by design, not subject to production testing.

Package Outline Dimensions (inches and millimeters)

TO-252				
SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
E	6.40	6.73	0.252	0.265
L	1.40	1.77	0.055	0.070
L1	2.743 REF			
L2	0.508BSC			
L3	0.89	1.27	0.035	0.050
L4	0.64	1.01	0.025	0.040
L5	-	-	-	-
D	6.00	6.22	0.236	0.245
H	9.40	10.40	0.370	0.409
b	0.64	0.88	0.025	0.035
b2	0.77	1.14	0.030	0.045
b3	5.21	5.46	0.205	0.215
e	2.286BSC			
A	2.20	2.38	0.087	0.094
A1	0.00	0.13	0.000	0.005
c	0.46	0.60	0.018	0.024
c2	0.46	0.58	0.018	0.023
D1	5.21	-	0.205	-
E1	4.40	-	0.173	-
Θ	0°	10°	0°	10°



Marking Information

First line:

AAAAAAAA = Product number

XXXXXXX = Tracking number