Preliminary Datasheet

N+P-Channel 30-V (D-S) MOSFET

FEATURES

● Advance Trench Process Technology

● High Density Cell Design for Ultra Low On-resistance

Application
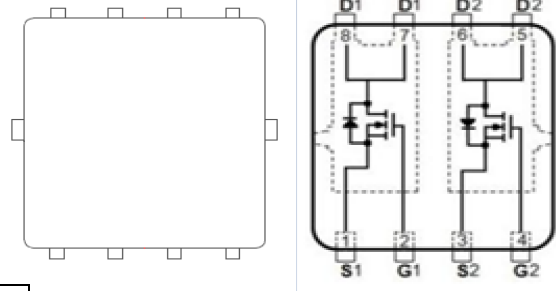
●Portable Devices

●Consumer Electronics

Mechanical

●Case: DFN3333 Package

Packing Information

Package	Packing
DFN3333	5Kpcs/13"Reel

PRODUCTY SUMMARY

V_{DS}	$R_{DS(on)}$ m(Ω)		I_D(A)
30	12.5	@V_{GS}=10.0V	19
30	12.6	@V_{GS}=4.5V	19
-30	26	@V_{GS}=-10.0V	-13
-30	35	@V_{GS}=-4.5V	-11

Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Limit		Unit
		N-Channel	P-Channel	
Drain-Source Voltage	V_{DS}	30	-30	V
Gate-Source Voltage	V_{GS}	20	20	V
Continuous Drain Current [1]	I_D	19	-14	A
Maximum Power Dissipation	P_D	5	5	W
Pulsed Drain Current [2]	I_{DM}	76	-56	A
ng Junction and Storage Temperature	T_J, T_{STG}	-55 to 150	-55 to 150	°C

Typical Thermal Resistance

Parameter	Symbol	Limit	Unit
Junction-to-Ambient Thermal Resistance	$R_{\theta JA}$	65	°C/W

Note:

$R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper

| Electrical Characteristics (T_A = 25°C UNLESS OTHERWISE NOTED) | | | | | | |

Electrical Characteristics (T_A = 25°C UNLESS OTHERWISE NOTED)

Characteristics	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
N-Channel Static						
Drain-Source 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	1.60	3.00	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=10.0V, I_D=19A	-	10.7	12.5	mΩ
		V_{GS}=4.5V, ID=19A	-	10.7	12.6	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1.0	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V			±100	nA
Drain-Source 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

Electrical Characteristics (T_A = 25°C UNLESS OTHERWISE NOTED)

Characteristics	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
P-Channel Static						
Drain-Source 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	-	-2.50	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=-10.0V, I_D=-13A	-	22	26	mΩ
		V_{GS}=-4.5V, ID=-11A	-	30	35	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V	-	-	1.0	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Drain-Source 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 T_J(MAX)=150°C. Ratings are based on low frequency and duty cycles to keep initial T_J =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)

SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.78	0.82	0.031	0.032
A1	0.00	0.05	0.000	0.002
b	0.30	0.35	0.012	0.014
c	0.15		0.006	
D	0.00	0.05	0.000	0.002
D1	2.98	3.03	0.117	0.119
D2	2.35		0.093	
E	3.20	3.25	0.126	0.128
E1	2.98	3.03	0.117	0.119
E2	1.75		0.069	
E3	0.58		0.023	
E4	0.350	0.45	0.014	0
R	0.20		0.008	
e	0.65BSC			
a°	3°			
a1°	10°			
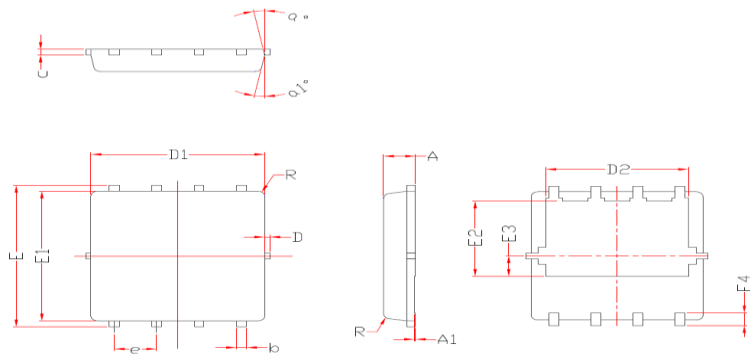
Marking Information
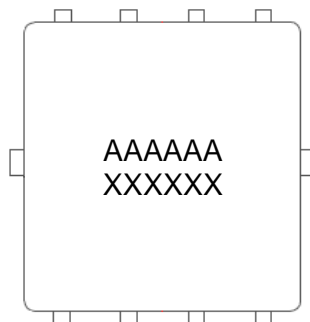
AAAAAA
XXXXXX

First line:

AAAAAA = Product number

Second line:

XXXXXX = Tracking number

Third line:Gate Pin Point