



N-Channel Enhancement MOSFET



VDS=30V, ID=35A

DESCRIPTION

YS35N03BB uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications

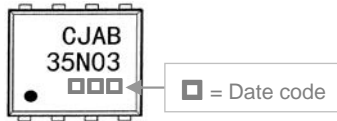
FEATURES

- High density cell design for ultra low $R_{DS(ON)}$
- Fully Characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Special processing technology for high ESD capability

APPLICATIONS

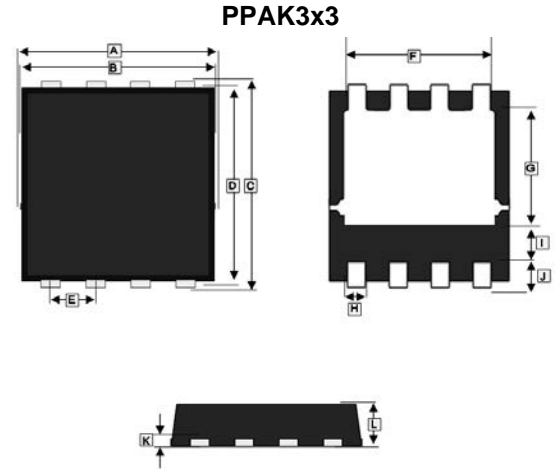
- High side switch in POL DC/DC converter
- Secondary side synchronous rectifier

MARKING

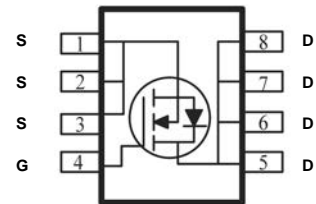


PACKAGE INFORMATION

Package	MPQ	Leader Size
PPAK3x3	3K	13 inch



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	3.20	3.40	G	1.55	1.98
B	2.90	3.20	H	0.24	0.35
C	3.05	3.45	I	0.35 TYP.	
D	2.90	3.20	J	0.60 TYP.	
E	0.65 BSC.		K	0.10	0.25
F	2.15	2.59	L	0.70	0.90



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current ¹	I _D	35	A
Pulsed Drain Current	I _{DM}	120	A
Single Pulse Avalanche Energy ²	E _{AS}	150	mJ
Power Dissipation	P _D	1.5	W
Thermal Resistance from Junction to Ambient ¹	R _{θJA}	83.3	°C / W
Lead Temperature for Soldering Purposes @ 1/8" from case for 10s	T _L	260	°C
Junction and Storage Temperature Range	T _J , T _{STG}	150, -55~150	°C

Notes:

1. Mounted on a 25.4mm × 25.4mm × 0.8mm glass epoxy board.
2. Test condition: V_{DD}=15V, L=0.1mH, R_G=25Ω, Starting T_J=25°C.

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ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Off Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	30	-	-	V	V _{GS} =0, I _D =250μA
Zero Gate Voltage Drain Current	I _{DSS}	-	-	1	μA	V _{DS} =30V, V _{GS} =0
Gate-Body Leakage Current	I _{GSS}	-	-	±100	nA	V _{DS} =0V, V _{GS} = ±20V
On Characteristics ¹						
Gate-Threshold Voltage	V _{GS(th)}	1	1.6	3	V	V _{DS} =V _{GS} , I _D =250μA
Static Drain-Source On-Resistance	R _{DS(ON)}	-	5.5	7	mΩ	V _{GS} =10V, I _D =12A
		-	8.2	9.5		V _{GS} =4.5V, I _D =10A
Forward Transconductance	g _{fs}	30	-	-	S	V _{DS} =10V, I _D =12A
Dynamic Characteristics						
Input Capacitance	C _{iss}	-	1265	-	pF	V _{DS} =15V V _{GS} =0 f=1MHz
Output Capacitance	C _{oss}	-	600	-		
Reverse Transfer Capacitance	C _{rss}	-	130	-		
Switching Characteristics						
Total Gate Charge	Q _g	-	19	-	nC	V _{DS} =15V V _{GS} =10V I _D =12A
Gate-Source Charge	Q _{gs}	-	2.7	-		
Gate-Drain Charge	Q _{gd}	-	2.5	-		
Turn-on Delay Time	T _{d(on)}	-	18	-	nS	V _{DD} =15V V _{GS} =10V R _G =6Ω I _D =12A
Rise Time	T _r	-	10	-		
Turn-off Delay Time	T _{d(off)}	-	34	-		
Fall Time	T _f	-	10	-		
Drain-Source Diode Characteristics						
Diode Forward Voltage ¹	V _{SD}	-	0.85	1.2	V	V _{GS} =0, I _S =12A
Continuous Drain-Source Diode Forward Current ²	I _S	-	-	35	A	
Pulsed Drain-Source Diode Forward Current	I _{SM}	-	-	120	A	

Notes:

1. Pulse test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
2. The surface of the device is mounted on a FR4 board, t ≤ 10 sec.

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CHARACTERISTICS CURVE

