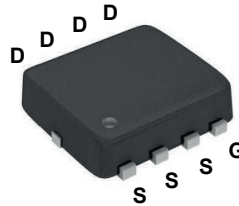
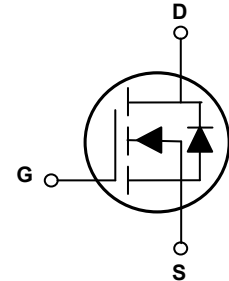


Main Product Characteristics

BV_{DSS}	25V
$R_{DS(ON)}$	4.7mΩ (max.)
I_D	84A



PPAK3x3



Schematic Diagram

Features and Benefits

- Advanced MOSFET process technology
- Ideal for high efficiency switched mode power supplies
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery



Description

The GSFN0284 utilizes the latest techniques to achieve high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supplies and a wide variety of other applications.

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

Parameter		Symbol	Max.	Unit
Drain-Source Voltage		V _{DS}	25	V
Gate-Source Voltage		V _{GS}	±12	V
Drain Current ⁵	T _C =25°C	I _D	84	A
	T _C =100°C		53	A
	T _A =25°C		23	A
	T _A =70°C		18	A
Pulsed Drain Current ²		I _{DM}	337	A
Total Power Dissipation ³	T _C =25°C	P _D	57	W
	T _A =25°C		4.2	W
Thermal Resistance Junction-to-Ambient ^{1,4}		R _{θJA}	30	°C/W
Thermal Resistance Junction-to-Case		R _{θJC}	2.2	°C/W
Junction and Storage Temperature Range		T _J /T _{STG}	-55 to +150	°C

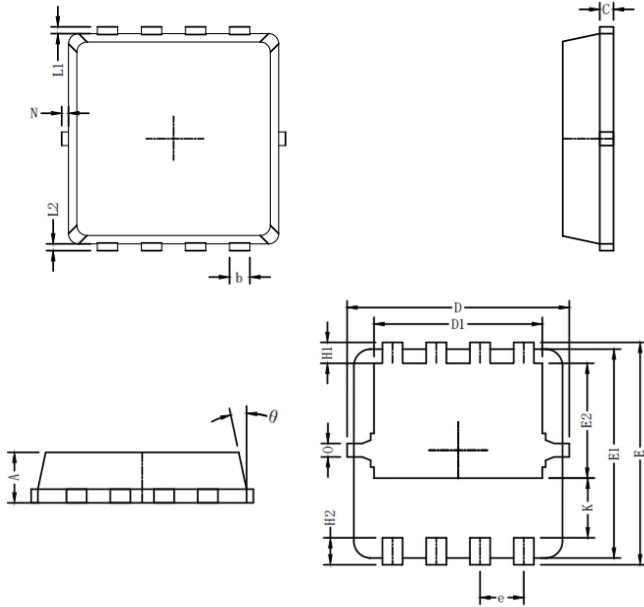
Electrical Characteristics ($T_J=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
On / Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	25	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =25V, V _{GS} =0V, T _C =25°C	-	-	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4	-	1.1	V
Static Drain-Source on-Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =20A	-	3.4	4.7	mΩ
		V _{GS} =2.5V, I _D =16A	-	4.3	6.0	
Dynamic and Switching Characteristics						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	3280	-	pF
Output Capacitance	C _{oss}		-	362	-	
Reverse Transfer Capacitance	C _{rss}		-	298	-	
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =30A	-	42	-	nC
Gate Source Charge	Q _{gs}		-	9	-	
Gate Drain Charge	Q _{gd}		-	10	-	
Turn-On Delay Time	t _{d(on)}	V _{GS} =10V, V _{DD} =15V, I _D =30A, R _{GEN} =3Ω	-	9	-	nS
Turn-On Rise Time	t _r		-	15	-	
Turn-Off Delay Time	t _{d(off)}		-	36	-	
Turn-Off Fall Time	t _f		-	11	-	
Source-Drain Ratings and Characteristics						
Diode Forward Voltage	V _{SD}	I _S =20A, V _{GS} =0V	-	0.8	1.2	V
Maximum Body-Diode Continuous Current	I _S	-	-	-	84	A

Notes:

1. The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz.Copper, in a still air environment with $T_A=25^{\circ}\text{C}$. The Power dissipation PDSM is based on $R_{\theta JA}$, $t \leq 10s$ and the maximum allowed junction temperature of 150°C . The value in any given application depends on the user's specific board design.
2. Single pulse width limited by junction temperature $T_{J(MAX)}=150^{\circ}\text{C}$.
3. The power dissipation P_D is based on $T_{J(MAX)}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.
4. The $R_{\theta JA}$ is the sum of the thermal impedance from junction to case $R_{\theta JA}$ and case to ambient.
5. The maximum current rating is package limited.

Package Outline Dimensions (PPAK3x3)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.65	0.85	0.026	0.033
b	0.25	0.35	0.010	0.014
c	0.15	0.25	0.006	0.010
D	3.00	3.20	0.118	0.126
D1	2.40	2.60	0.094	0.102
E	3.20	3.40	0.126	0.134
E1	3.00	3.20	0.118	0.126
E2	1.60	1.80	0.063	0.071
e	0.65 BSC		0.026 BSC	
H1	0.21	0.41	0.008	0.016
H2	0.30	0.50	0.012	0.020
K	0.78	0.98	0.031	0.039
L1/L2	0.10 REF		0.004 REF	
θ	11°	13°	11°	13°
N	0	0.15	0.000	0.006
O	0.20 REF		0.008 REF	

Order Information

Device	Package	Marking	Carrier	Quantity
GSFN0284	PPAK3x3	N2504LRF3	Tape & Reel	5,000 pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com