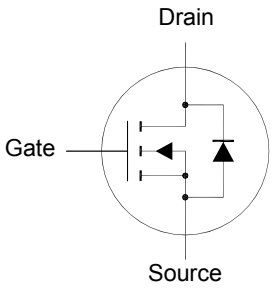
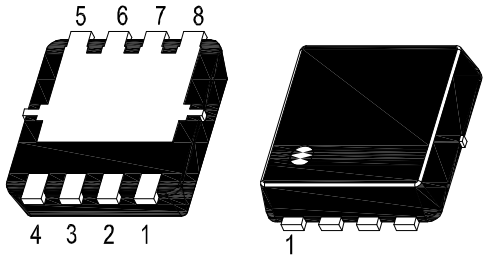
SFTN6016MP

N-Channel Enhancement Mode MOSFET





1. Source 2. Source 3. Source 4. Gate
5. Drain 6. Drain 7. Drain 8. Drain
DFN3030 Plastic Package

Absolute Maximum Ratings

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	60	V
Drain-Gate Voltage		V_{GS}	± 20	V
Drain Current - Continuous [1]	T_C = 25˚C T_C = 100˚C	I_D	44 28	A
Drain Current – Pulse [2]		I_{DM}	100	A
Power Dissipation [3]	T_C = 25˚C	P_D	42	W
Operating Junction and Storage Temperature Range		T_j, T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance - Junction to Ambient [1]	$R_{\theta JA}$	75	˚C/W
Thermal Resistance - Junction to Case [1]	$R_{\theta JC}$	3	˚C/W

[1] The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper.

[2] The data tested by pulsed , pulse width ≦ 300μs , duty cycle ≦ 2%.

[3] The power dissipation is limited by 150˚C junction temperature.

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Characteristics at T_j = 25℃ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 250 μA	BV_{DSS}	60	-	-	V
Gate-Source Threshold Voltage at V_{GS} = V_{DS}, I_D = 250 μA	V_{GSth}	1.2	-	2.5	V
Drain-Source Leakage Current at V_{DS} = 48 V,T_J = 25˚C at V_{DS} = 48 V,T_J = 55˚C	I_{DSS}	- -	- -	1 5	μA
Gate-Source Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	-	± 100	nA
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 8 A at V_{GS} = 4.5 V, I_D = 6 A	$R_{DS(on)}$	- -	- -	12 15	mΩ
Forward Transconductance at V_{DS} = 5 V, I_D = 8 A	$\|g_{FS}\|$	-	75	-	S
Input Capacitance at V_{GS} = 0 V,V_{DS} = 15 V, f = 1 MHz	C_{iss}	-	3240	-	pF
Output Capacitance at V_{GS} = 0 V,V_{DS} = 15 V, f = 1 MHz	C_{oss}	-	210	-	pF
Reverse Transfer Capacitance at V_{GS} = 0 V,V_{DS} = 15 V, f = 1 MHz	C_{rss}	-	146	-	pF
Turn-On Delay Time at V_{GS} = 10 V, V_{DD} = 30 V, R_G = 3.3 Ω, I_D = 8 A	$t_{d(on)}$	-	10.4	-	ns
Turn-On Rise Time at V_{GS} = 10 V, V_{DD} = 30 V, R_G = 3.3 Ω, I_D = 8 A	t_r	-	9.2	-	ns
Turn-Off Delay Time at V_{GS} = 10 V, V_{DD} = 30 V, R_G = 3.3 Ω, I_D = 8 A	$t_{d(off)}$	-	63	-	ns
Turn-Off Fall Time at V_{GS} = 10 V, V_{DD} = 30 V, R_G = 3.3 Ω, I_D = 8 A	t_f	-	4.8	-	ns

Drain-Source Diode Characteristics and Maximum Ratings

Parameter	Symbol	Max.	Unit
Continuous Source-Drain Diode Current [1) 3)]	I_S	44	A
Pulsed Diode Forward Current [2) 3)]	I_{SM}	100	A

[1)] The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper.

[2)] The data tested by pulsed , pulse width ≦ 300μs , duty cycle ≦ 2%.

[3)] The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

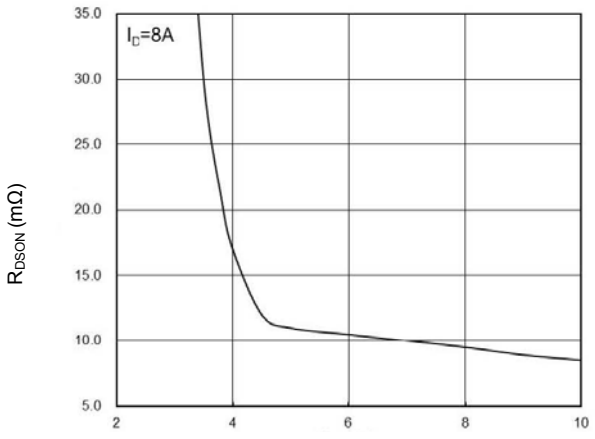


Figure 1.On Resistance vs. Gate Source Voltage

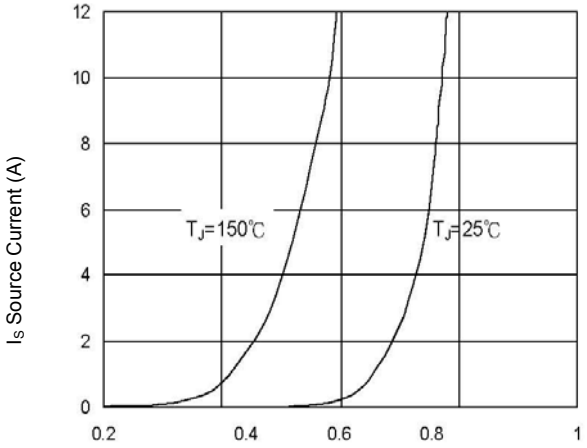


Figure 2.Forward Characteristics of Reverse

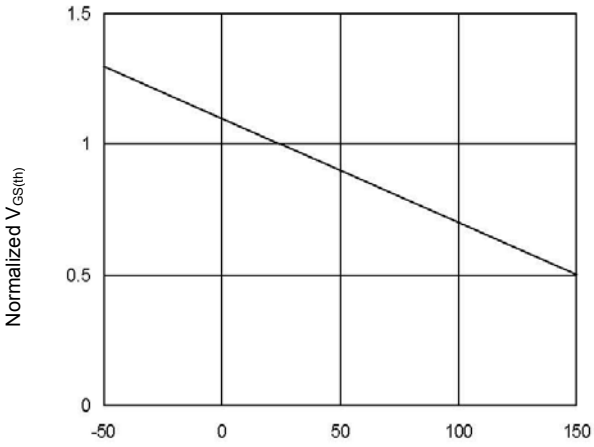


Figure 3.Normalized $V_{GS(th)}$ vs. T_J

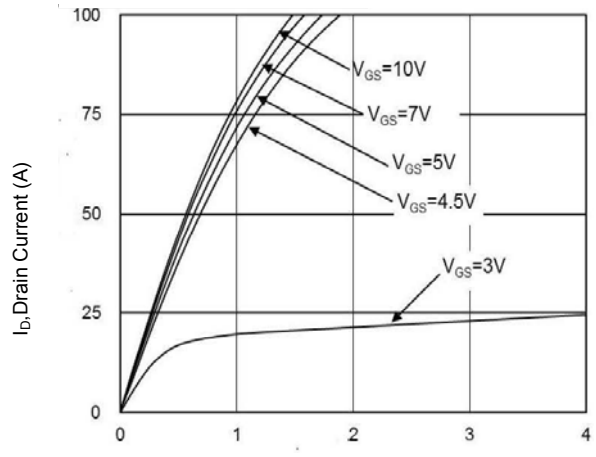
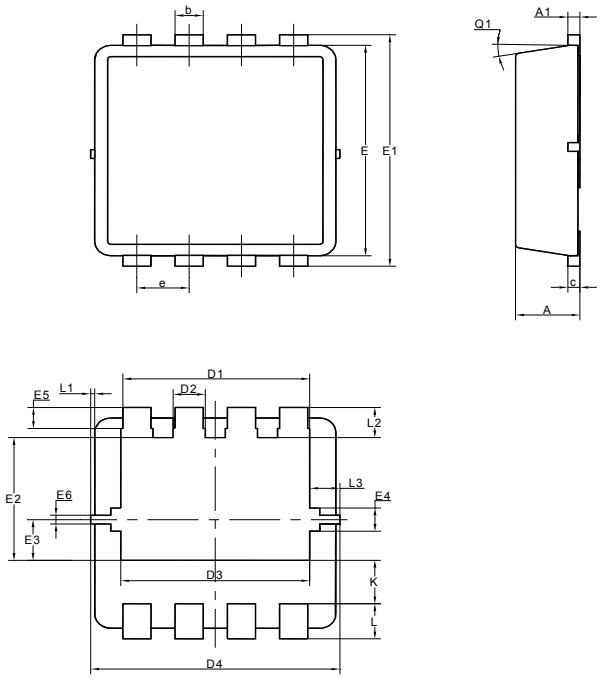


Figure 4.Typical Output Characteristics

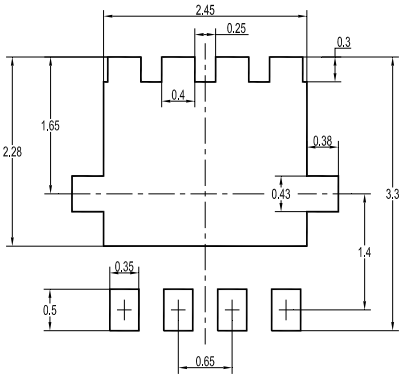
DFN3030 Package Outline Dimensions (Units: mm)



UNIT	A	A1	b	c	D	D1	D2	D3	D4	E	E1	E2	E3
mm	0.9	0.05	0.35	0.25	3.1	2.45	0.5	2.7	3.2	3.1	3.3	1.85	0.68
	0.7	0	0.24	0.1	2.9	2.25	0.3	2.5	3	2.9	3.1	1.65	0.48

UNIT	E4	E5	E6	e	K	L	L1	L2	L3	θ1
mm	0.43	0.4	0.175	0.7	0.72	0.5	0.1	0.53	0.475	12°
	0.23	0.2	0.075	0.6	0.52	0.3	0	0.33	0.275	0°

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
DFN3030	8	4 ± 0.1	0.157 ± 0.004	330	13	3,000

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