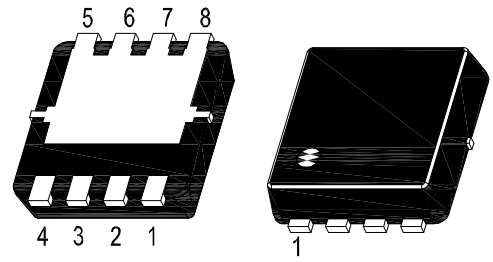
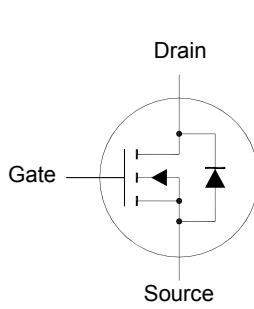


SFTN6412MP

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}	65	V
Drain-Gate Voltage	V_{GS}	± 20	V
Drain Current - Continuous	I_D	30 19	A
		$V_{GS} = 10\text{ V}$ $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	
Power Dissipation	P_D	32	W
		$T_C = 25^\circ\text{C}$	
Drain Current - Pulsed ¹⁾	I_{DM}	60	A
		$T_C = 25^\circ\text{C}$	
Single Pulse Avalanche Energy ²⁾	E_{AS}	121	mJ
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	35	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction to Case	$R_{\theta JC}$	3.9	$^\circ\text{C}/\text{W}$

¹⁾ Repetitive Rating : Pulsed width limited by maximum junction temperature.

²⁾ Limited by T_{jmax} , $V_{GS} = 10\text{ V}$, $L = 0.5\text{ mH}$, $I_{AS} = 22\text{ A}$, $R_G = 25\ \Omega$, Starting $T_J = 25^\circ\text{C}$.

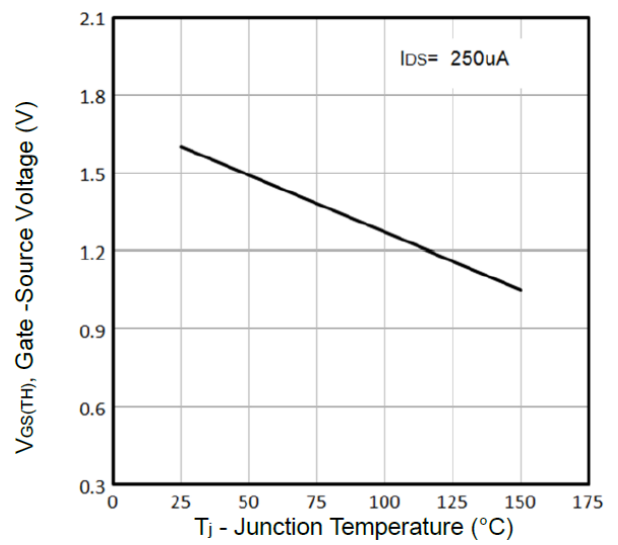
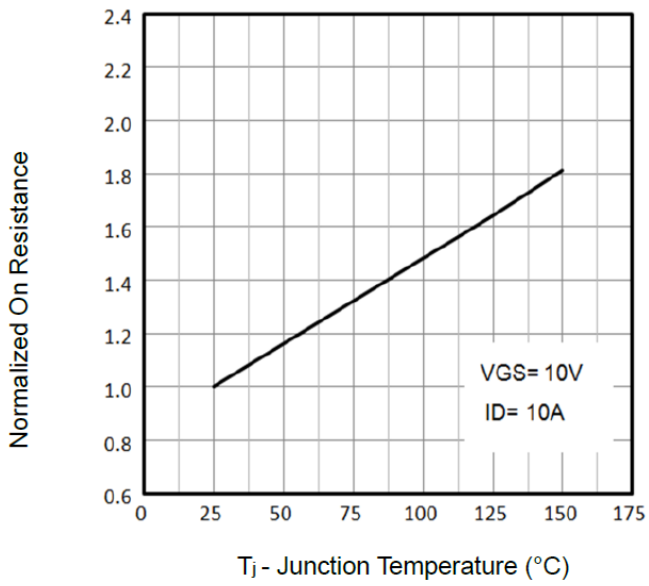
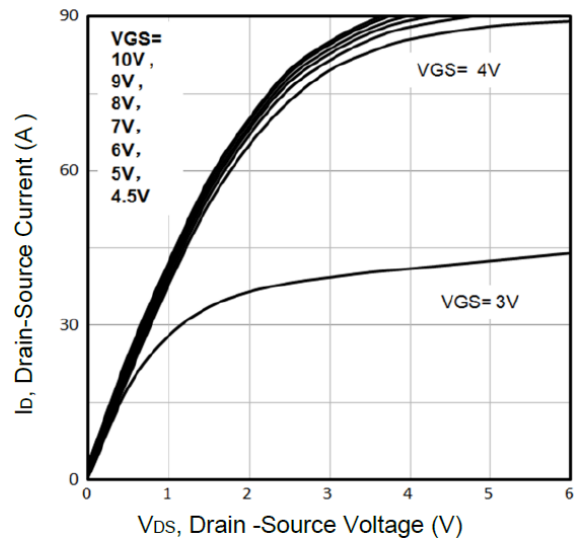
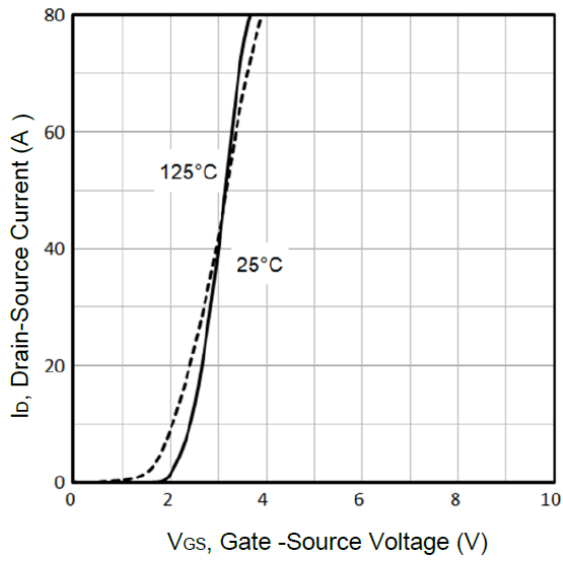
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Characteristics at $T_J = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 250\ \mu\text{A}$	BV_{DSS}	65	-	-	V
Gate-Source Threshold Voltage at $V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	V_{GSth}	1	-	2.5	V
Drain-Source Leakage Current at $V_{DS} = 65\ \text{V}$ at $V_{DS} = 65\ \text{V}, T_J = 125^\circ\text{C}$	I_{DSS}	- -	- -	0.1 100	μA
Gate-Source Leakage Current at $V_{GS} = \pm 20\ \text{V}$	I_{GSS}	-	-	± 100	nA
Drain-Source On-State Resistance at $V_{GS} = 10\ \text{V}, I_D = 15\ \text{A}$ at $V_{GS} = 4.5\ \text{V}, I_D = 10\ \text{A}$	$R_{DS(on)}$	- -	- -	24 26	m Ω
Input Capacitance at $V_{GS} = 0\ \text{V}, V_{DS} = 30\ \text{V}, f = 1\ \text{MHz}$	C_{iss}	-	1240	-	pF
Output Capacitance at $V_{GS} = 0\ \text{V}, V_{DS} = 30\ \text{V}, f = 1\ \text{MHz}$	C_{oss}	-	95	-	pF
Reverse Transfer Capacitance at $V_{GS} = 0\ \text{V}, V_{DS} = 30\ \text{V}, f = 1\ \text{MHz}$	C_{rss}	-	85	-	pF
Turn-On Delay Time at $V_{GS} = 10\ \text{V}, V_{DD} = 30\ \text{V}, I_D = 5\ \text{A}, R_G = 6.8\ \Omega$	$t_{d(on)}$	-	12	-	ns
Turn-On Rise Time at $V_{GS} = 10\ \text{V}, V_{DD} = 30\ \text{V}, I_D = 5\ \text{A}, R_G = 6.8\ \Omega$	t_r	-	8.5	-	ns
Turn-Off Delay Time at $V_{GS} = 10\ \text{V}, V_{DD} = 30\ \text{V}, I_D = 5\ \text{A}, R_G = 6.8\ \Omega$	t_{off}	-	42	-	ns
Turn-Off Fall Time at $V_{GS} = 10\ \text{V}, V_{DD} = 30\ \text{V}, I_D = 5\ \text{A}, R_G = 6.8\ \Omega$	t_f	-	6	-	ns

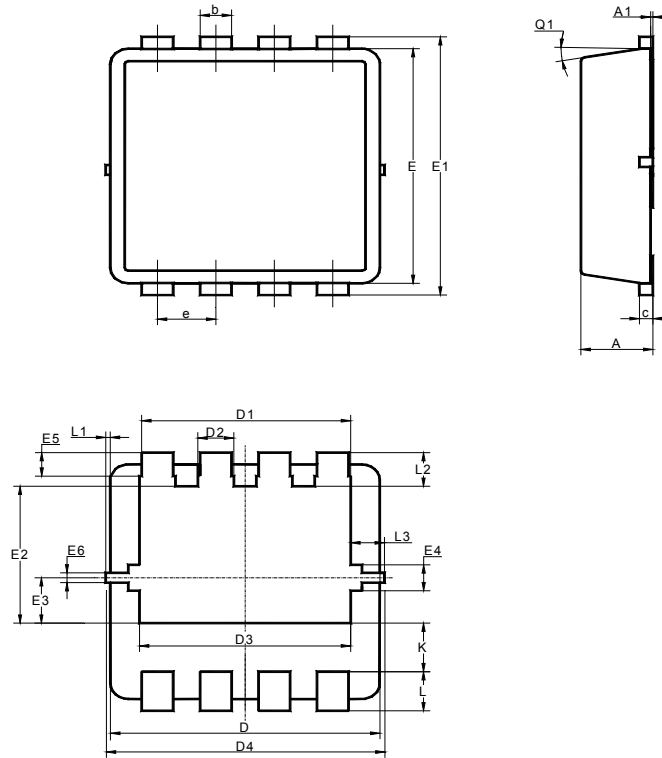
Drain-Source Diode Characteristics and Maximum Ratings

Parameter	Symbol	Max.	Unit
Drain-Source Diode Forward Voltage at $V_{GS} = 0\ \text{V}, I_S = 2\ \text{A}$	V_{SD}	1.2	V



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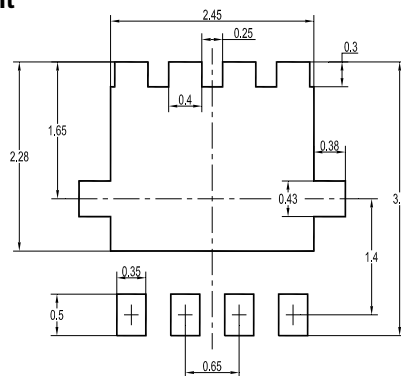
DFN3030 Package Outline Dimensions (Units: mm)



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	2.2	0.3	2.4	3	2.9	3.1	1.65	0.48

UNIT	E4	E5	E6	e	K	L	L1	L2	L3	Q1
mm	0.43	0.4	0.25	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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