

FrelTec

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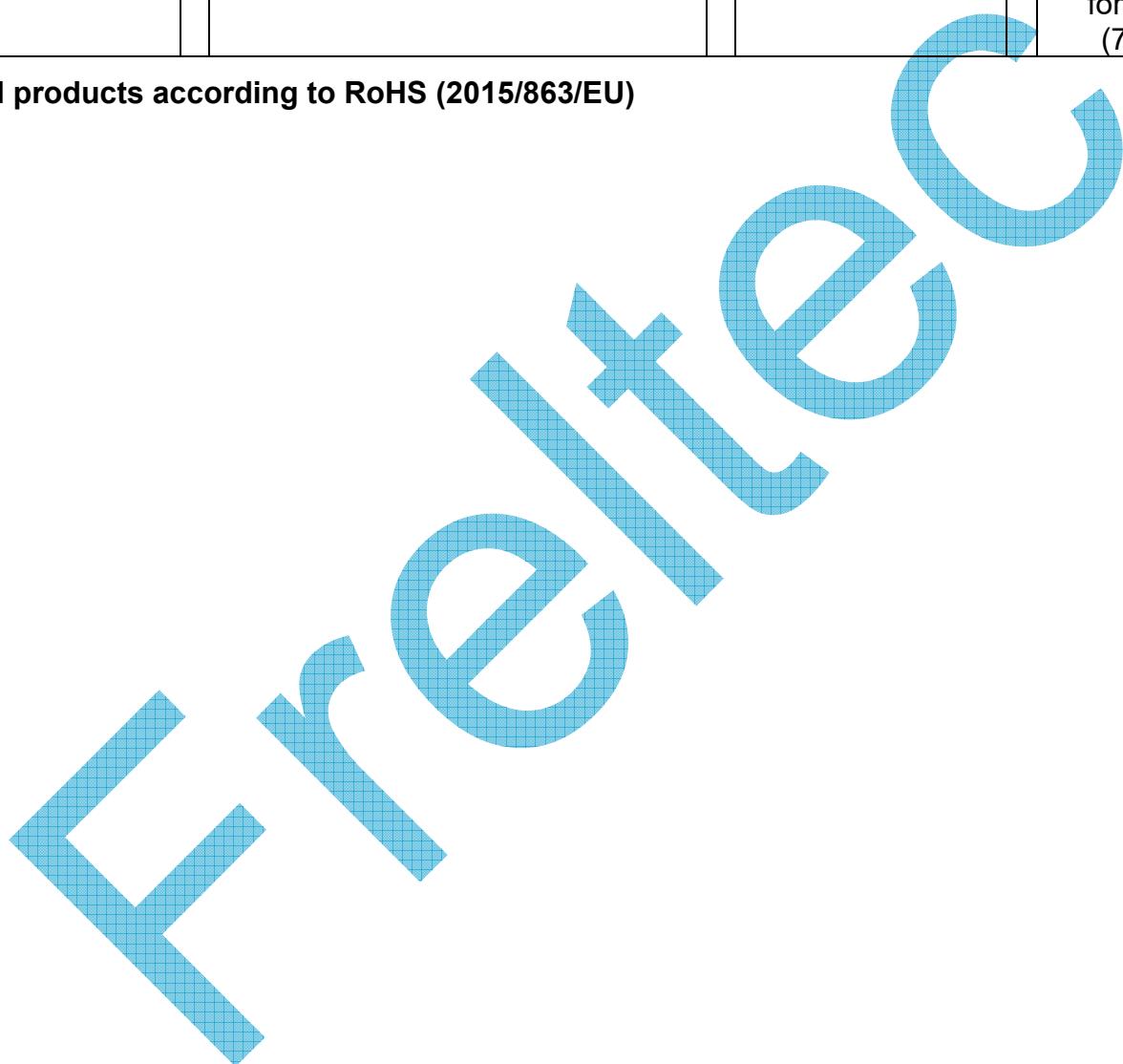


SOT883

SPECIFICATION

651	LSI1012N3x	ST83	E10
Type	Type	Package	Packing
651: MOSFET	LSI1012N3	SOT883	E10: Embossed tape and reel for 10k pc (7'Reel)

All products according to RoHS (2015/863/EU)



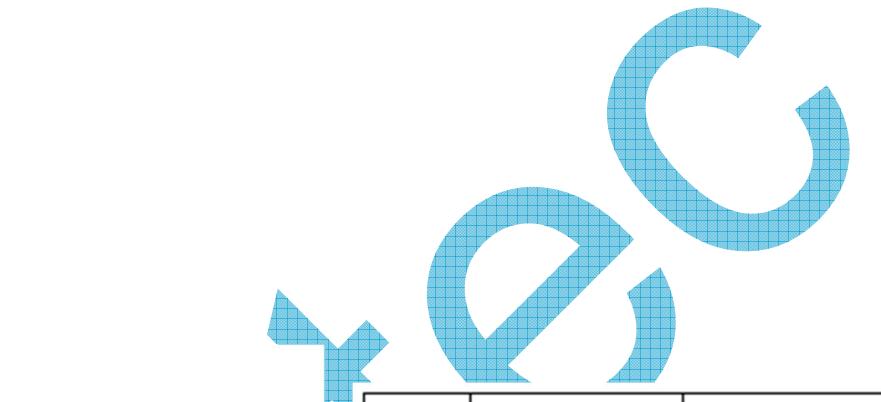
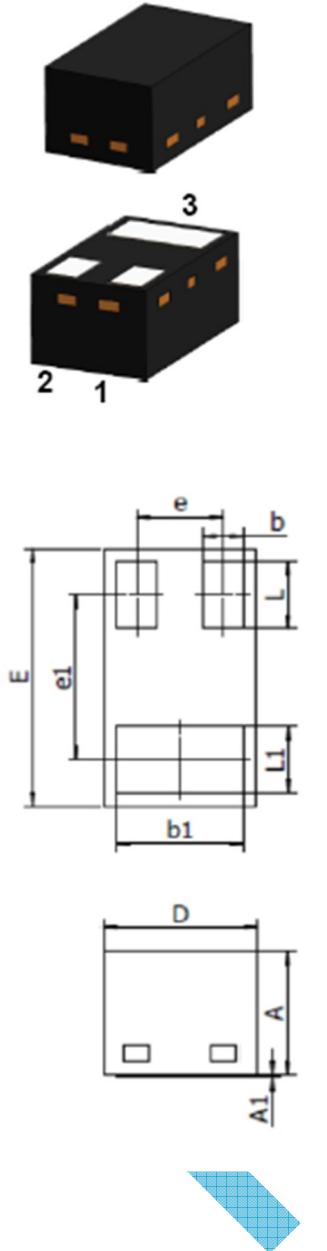
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FrelTec

MOSFET

LSI1012N3

PACKAGE OUTLINE



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.46	0.50	0.018	0.020
A1	---	0.03	---	0.001
D	0.55	0.65	0.022	0.026
E	0.95	1.05	0.037	0.041
b	0.12	0.22	0.005	0.008
b1	0.45	0.55	0.018	0.022
L	0.22	0.32	0.008	0.013
L1	0.22	0.32	0.008	0.013
e	Typ. 0.34		Typ. 0.013	
e1	Typ. 0.65		Typ. 0.026	

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Absolute Maximum Ratings TA = 25°C unless otherwise noted

Symbol	Parameter	5 secs	Steady State	Units
V _{ds}	Drain-Source Voltage		20	V
V _{gs}	Continuous Gate-Source Voltage		±6V	V
I _D	Continuous Drain Current ^e TA=25°C TA=85°C	600 400	500 350	mA
I _{DM}	Pulsed Drain Current ^d		1000	mA
I _S	Continuous Source Current ^e	275	250	mA
P _D	Power Dissipation ^e TA=25°C TA=85°C	175 90	150 80	mW
T _{STG}	Storage Temperature Range		-55 to +150	°C
T _J	Operating Junction Temperature		+150	°C
ESD	Gate-source ESD Rating (HBM, Method 3015)		2000	V

These ratings are limiting values above which the serviceability of the device may be impaired.

Notes:

d. Pulse width limited by maximum junction temperature

e. Surface mounted on FR4 board.

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Electrical Characteristics (TA = 25°C unless otherwise noted)

Static

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
V _{th(gs)}	Gate-Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0,45		0,9	Volts
I _{GSS}	Gate-Body Leakage	V _{DS} =0V, V _{GS} =±4,5V		±0,5	±1,0	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V		0,3	100	µA
I _{D(on)}	On-state Drain Current ^a	V _{DS} =5V, V _{GS} =4,5V	700			µA
R _{DSS(on)}	Drain-Source On-Resistance ^a	V _{GS} =4,5V, I _D =600mA		0,41	0,70	Ω
		V _{GS} =2,5V, I _D =500mA		0,53	0,85	Ω
		V _{GS} =1,8V, I _D =350mA		0,70	1,25	Ω
g _{fS}	Forward Trans Conductance ^a	V _{DS} =10V, I _D =400mA		1		ms
V _{SD}	Diode Forward Voltage ^a	I _S =150mA, V _{GS} =0V		0,8	1,2	V

Dynamic

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
Q _g	Total Gate Charge	V _{DS} = 10V, V _{GS} = 4,5V, I _D =250mA	--	750	--	pC
Q _{gs}	Gate-Source Charge		--	75	--	
Q _{gd}	Gate-Drain Charge		--	225	--	
T _{d(on)}	Turn-On Delay Time	V _{DD} =10V, R _L =47Ω, I _D =200mA, V _{GEN} =4,5V R _G =10 Ω	--	5	--	ns
t _r	Rise Time		--	5	--	
T _{d(off)}	Turn-Off Delay Time		--	25	--	
t _f	Fall time		--	11	--	

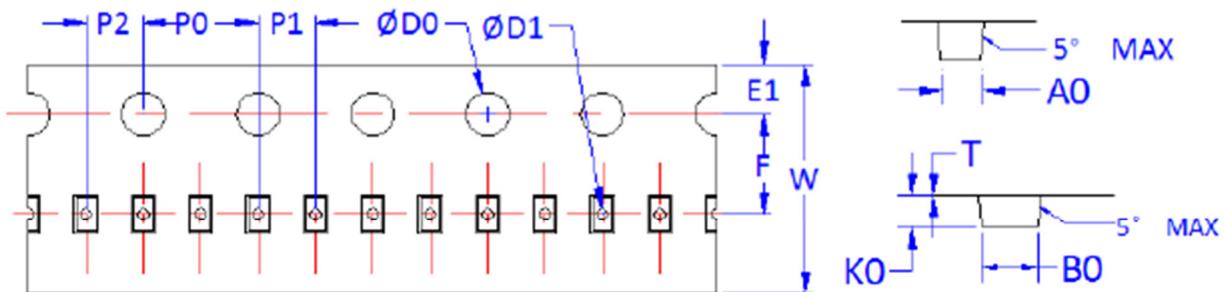
Notes:

- a. Pulse test: pulse width≤300us, duty cycle≤2%.
- b. Guaranteed by design, not subject to production testing.

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SPECIFICATION

Tape And Reel Package



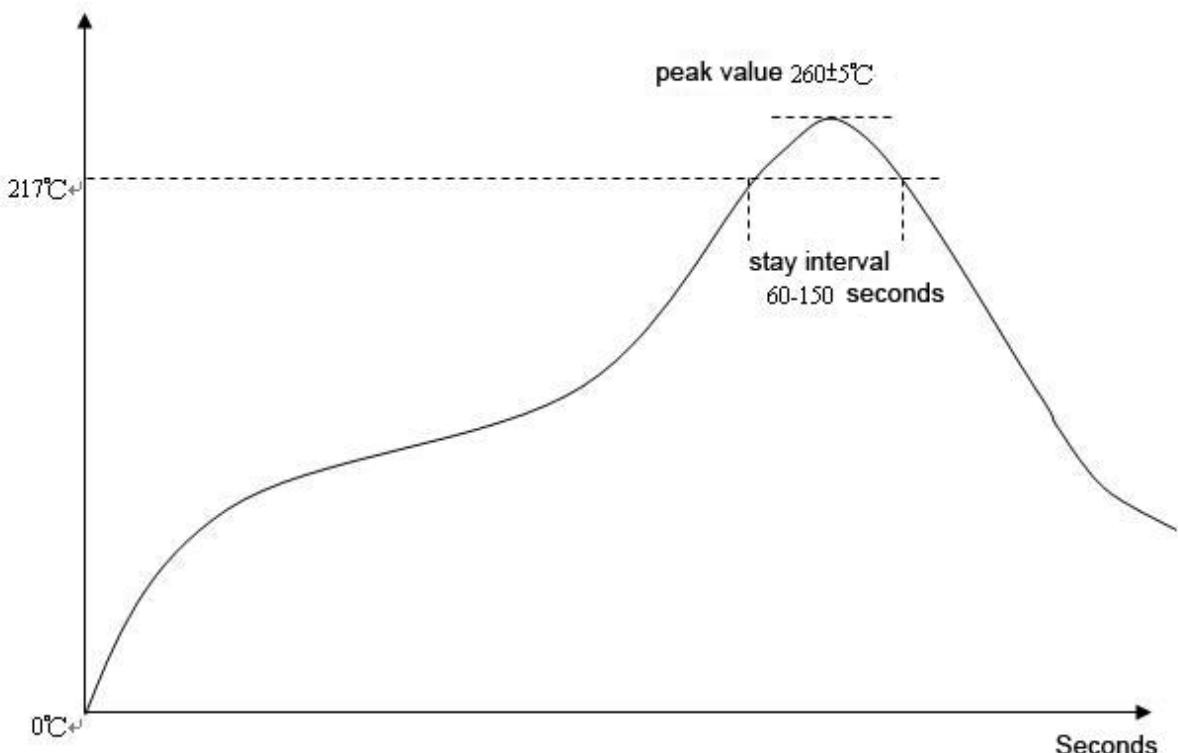
Unit: mm

PKG Type	Tape Size	Dim.	W	P1	E1	F	D0	D1	P0	10P0	P2	A0	B0	K0	t
SOD882	8mm	Min.	7.9	1.95	1.65	3.45	1.5	0.35	3.9	39.8	1.95	0.64	1.14	0.61	0.23
		Max.	8.3	2.05	1.85	3.55	1.6	0.45	4.1	40.2	2.05	0.74	1.24	0.71	0.27



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Lead Free Reflow Soldering Profile



Stock period

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of $25^\circ\text{C} \pm 3^\circ\text{C}$ and a relative humidity less than 80%RH

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Published by FreiTec® GmbH

Mathildenstr. 10A; 82319 Starnberg; Germany

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