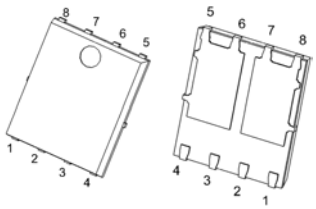
SZCJ

PDFNWB5×6-8L-A Plastic-Encapsulate MOSFETS

CJAC0610 N Channel+P Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$TYP	I_D
100V	85mΩ@10V	10A
	110mΩ@4.5V	
-100V	150mΩ@-10V	-6A
	160mΩ@-4.5V	

PDFNWB5×6-8L-A



DESCRIPTION

The CJAC0610 provides excellent $R_{DS(ON)}$. It can be used in a wide variety of applications

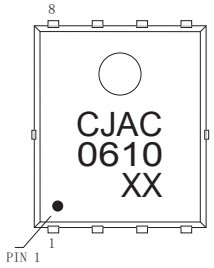
FEATURES

- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

APPLICATIONS

- DC/DC converter
- High-frequency switching and synchronous rectification

MARKING

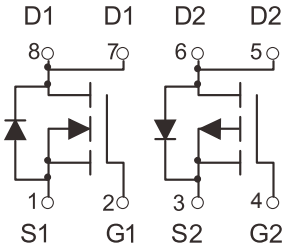


CJAC0610 = Part No.

Solid dot = Pin1 indicator.

XX = Code.

EQUIVALENT CIRCUIT



Maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Limit		Unit
N-MOSFET				
Drain-Source Voltage	V_{DS}	100		V
Gate-Source Voltage	V_{GS}	±20		V
Continuous Drain Current	I_D ①	10		A
Pulsed Drain Current	I_{DM} ②	40		A
Single Pulsed Avalanche Energy	E_{AS} ③	80		mJ
P-MOSFET				
Drain-Source Voltage	V_{DS}	-100		V
Gate-Source Voltage	V_{GS}	±20		V
Continuous Drain Current	I_D ①	-6.0		A
Pulsed Drain Current	I_{DM} ②	-24		A
Single Pulsed Avalanche Energy	E_{AS} ④	125		mJ
Temperature and Thermal Resistance		NMOS	PMOS	
Power Dissipation	P_D ①	44	75	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$ ⑦	69	65	℃/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$ ①	2.83	1.65	℃/W
Operating Junction and Storage Temperature Range	T_J ,T_{stg}	-55~+150		℃

MOSFET ELECTRICAL CHARACTERISTICS

N-Channel MOSFET ELECTRICAL CHARACTERISTICS, T_a=25 ℃ unless otherwise specified

Parameter	Symbol	Test Condition		Min	Typ	Max	Unit
Off characteristics							
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA		100			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =80V, V_{GS} =0V	T_J =25℃			1.0	μA
			T_J =125℃			100	
Gate-body leakage current	I_{GSS}	V_{DS} =0V, V_{GS} =±20V				±100	nA
On characteristics ⑤							
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA		1.0	2.0	2.5	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =5A			85	100	mΩ
		V_{GS} =4.5V, I_D =2A			110	160	mΩ
Dynamic characteristics ⑤⑥							
Input capacitance	C_{iss}	V_{DS} =30V,V_{GS} =0V, f =1MHz			905	1810	pF
Output capacitance	C_{oss}				32	64	
Reverse transfer capacitance	C_{rss}				31	62	
Switching characteristics ⑤⑥							
Total gate charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=8A			16	32	nC
Gate-source charge	Q_{gs}				2.2	4.4	
Gate-drain charge	Q_{gd}				4	8	
Turn-on delay time	$t_{d(on)}$	V_{DD}=30V,I_D=8A, V_{GS}=10V, R_G=3Ω			16		ns
Turn-on rise time	t_r				8.2		
Turn-off delay time	$t_{d(off)}$				2.2		
Turn-off fall time	t_f				4.5		
Drain-Source Diode Characteristics							
Drain-source diode forward voltage	V_{SD} ⑤	V_{GS} =0V, I_S=4A				1.2	V
Continuous drain-source diode forward current	I_S ①					10	A
Pulsed drain-source diode forward current	I_{SM} ②					40	A

MOSFET ELECTRICAL CHARACTERISTICS

P-Channel MOSFET ELECTRICAL CHARACTERISTICS, T_a=25 ℃ unless otherwise specified

Parameter	Symbol	Test Condition		Min	Typ	Max	Unit
Off characteristics							
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D = -250μA		-100			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-80V, V_{GS} =0V	T_J =25℃			-1.0	μA
			T_J =125℃			-100	
Gate-body leakage current	I_{GSS}	V_{DS} =0V, V_{GS} =±20V				±100	nA
On characteristics ⑤							
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA		-1.0	-1.6	-2.5	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-5A			150	210	mΩ
		V_{GS} =-4.5V, I_D =-2A			160	220	
Dynamic characteristics ⑤⑥							
Input capacitance	C_{iss}	V_{DS} =-30V,V_{GS} =0V, f =1MHz			1710	3420	pF
Output capacitance	C_{oss}				65	130	
Reverse transfer capacitance	C_{rss}				60	120	
Switching characteristics ⑤⑥							
Total gate charge	Q_g	V_{GS}=-10V,V_{DS}=-30V, I_D=-8A			36	72	nC
Gate-source charge	Q_{gs}				5.4	11	
Gate-drain charge	Q_{gd}				7.1	14	
Turn-on delay time	$t_{d(on)}$	V_{DD}=-30V,I_D=-8.3A, V_{GS}=-10V, R_G=2.7Ω			6.6		ns
Turn-on rise time	t_r				15		
Turn-off delay time	$t_{d(off)}$				115		
Turn-off fall time	t_f				35		
Drain-Source Diode Characteristics							
Drain-source diode forward voltage	V_{SD} ⑤	V_{GS} =0V, I_S=-4A				-1.2	V
Continuous drain-source diode forward current	I_S ①					-6.0	A
Pulsed drain-source diode forward current	I_{SM} ②					-24	A

Notes:

1.T_C=25℃ Limited only by maximum temperature allowed.

2.P_W≤10μs, Duty cycle≤1%.

3.EAS condition: V_{DD}=50V,V_{GS}=10V, L=10mH, R_g=25Ω Starting T_J = 25°℃.

4.EAS condition: VDD=-50V,VGS=-10V, L=0.5mH, Rg=25Ω Starting TJ = 25°℃.

5.Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

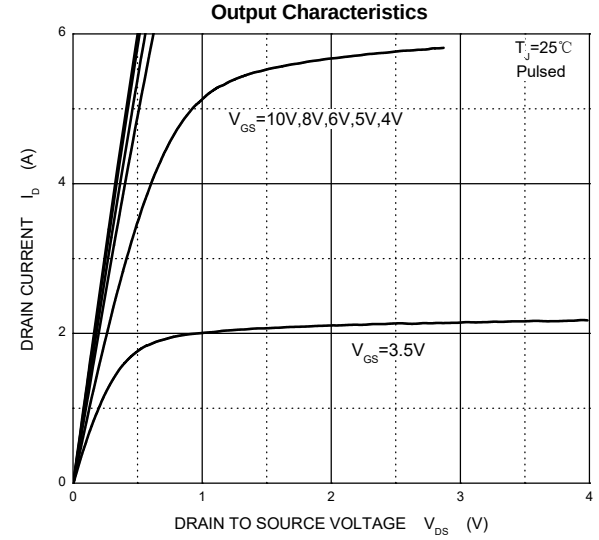
6.Guaranteed by design, not subject to production.

7.The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25℃.

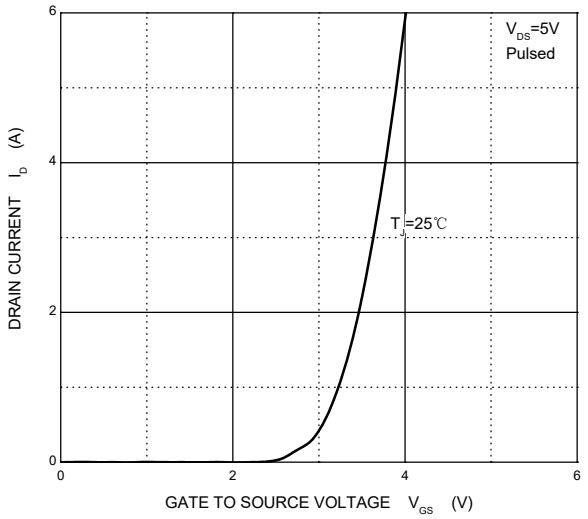
Typical Characteristics

N-Channel MOS

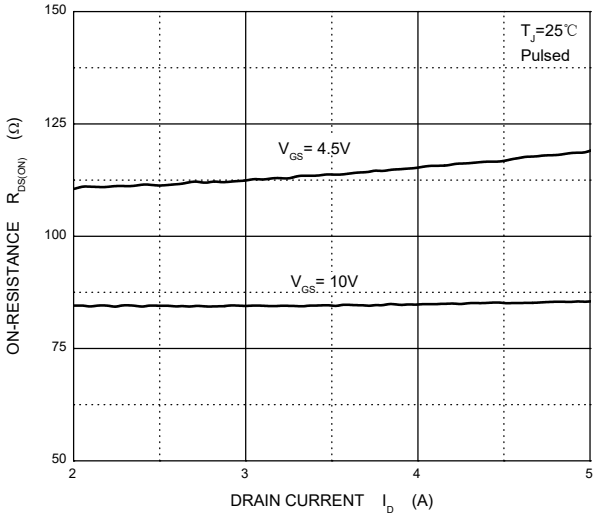
Output Characteristics



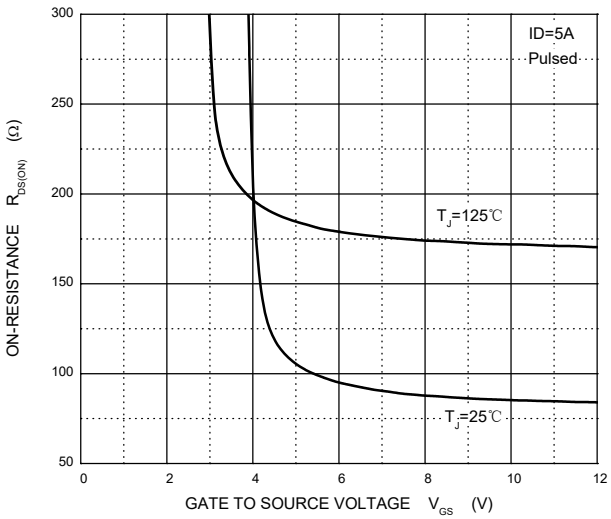
Transfer Characteristics



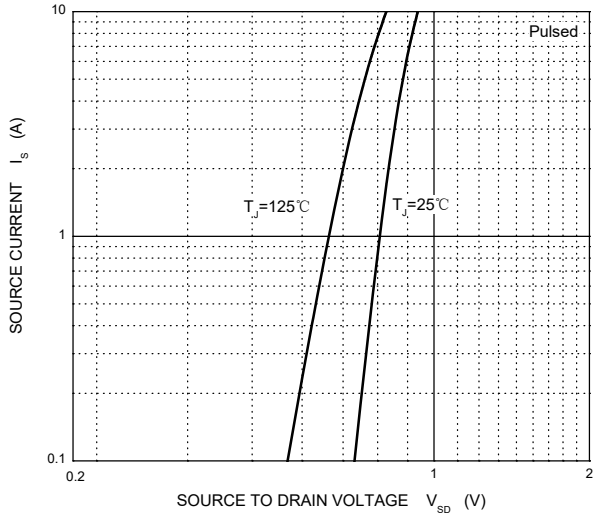
$R_{DS(ON)}$ —— I_D



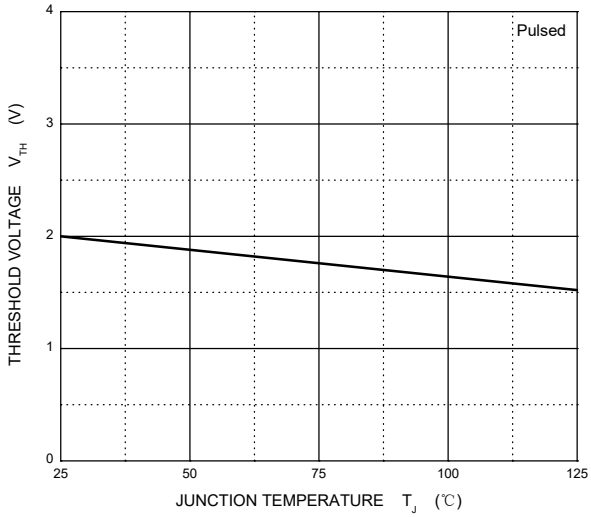
$R_{DS(ON)}$—— V_{GS}



I_S —— V_{SD}

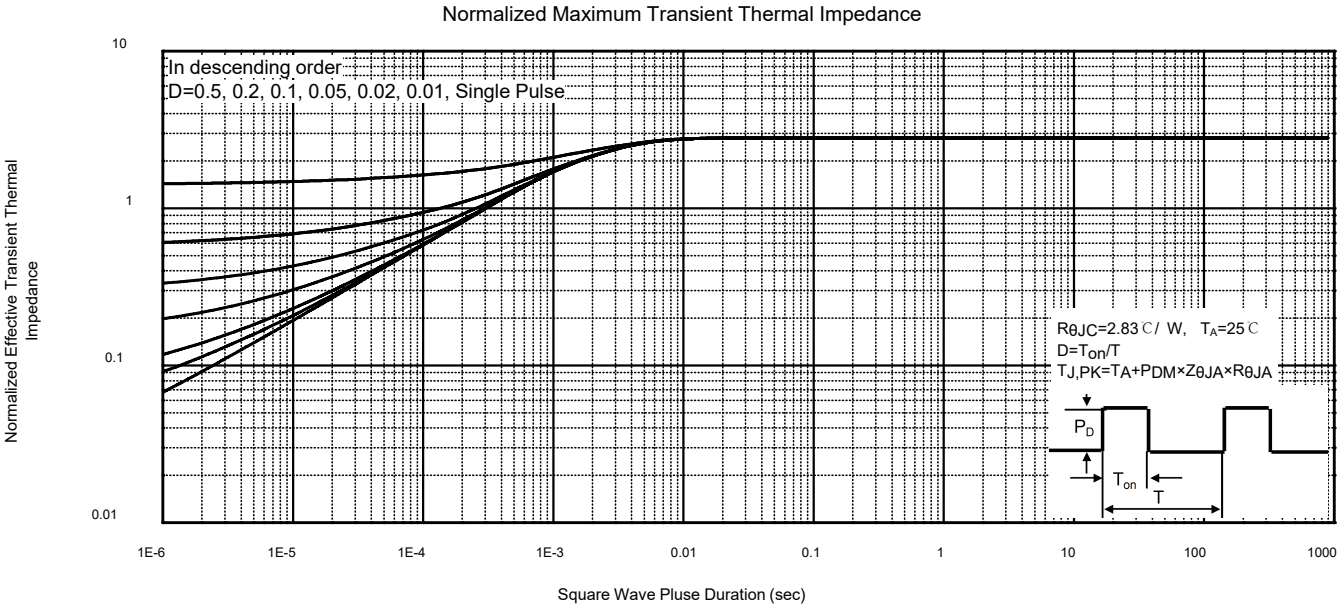


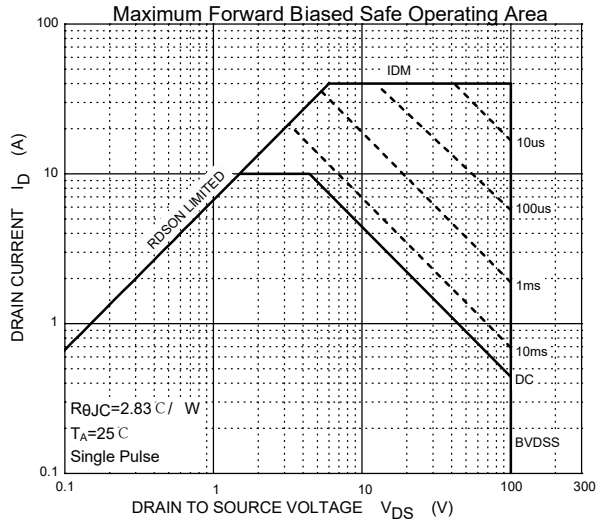
Threshold Voltage



Typical Characteristics

N-Channel MOS

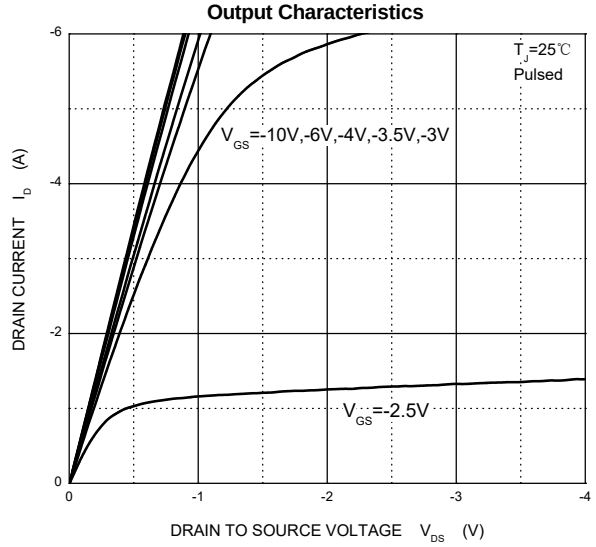




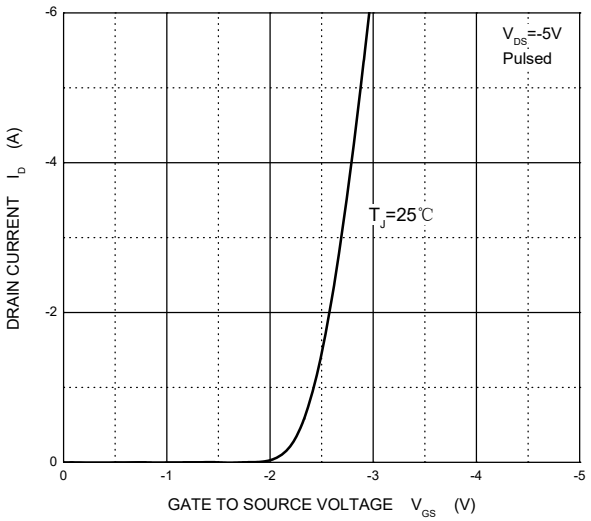
Typical Characteristics

P-Channel MOS

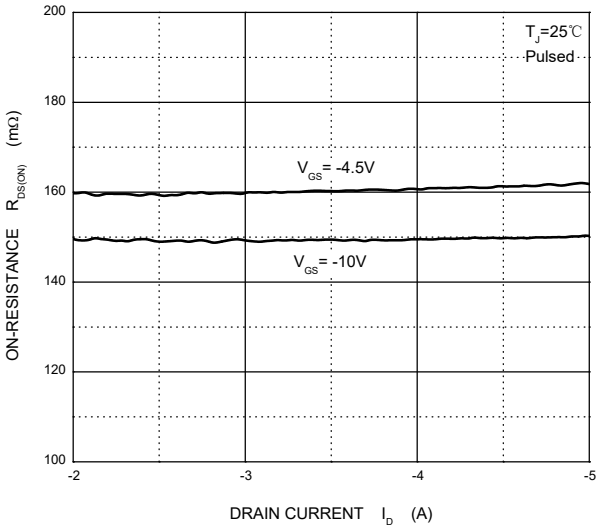
Output Characteristics



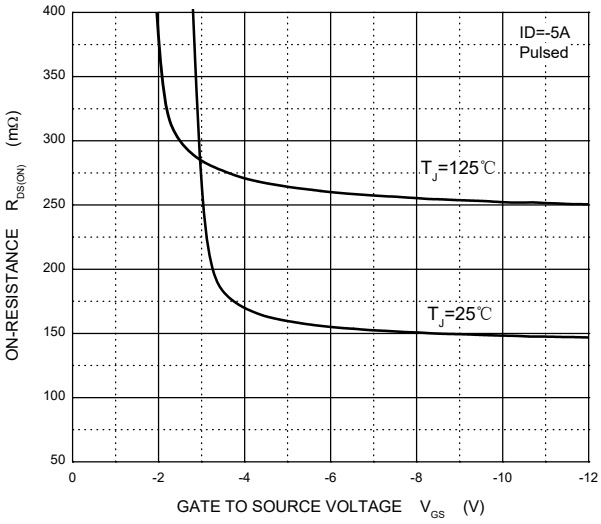
Transfer Characteristics



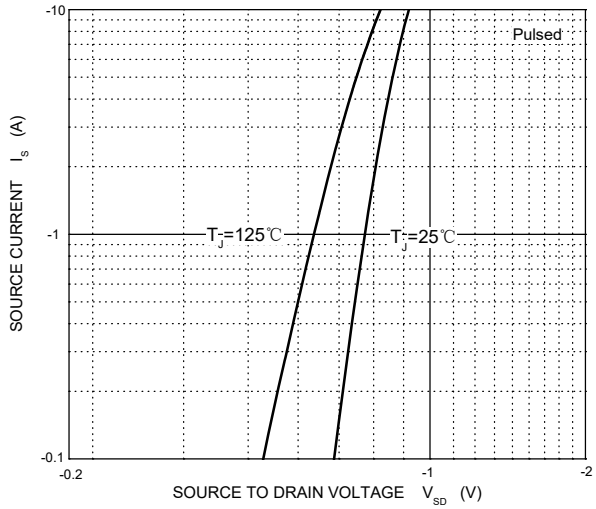
$R_{DS(ON)}$ —— I_D



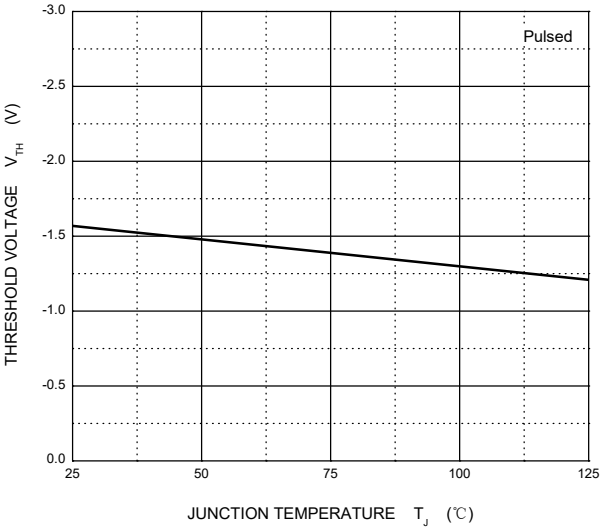
$R_{DS(ON)}$—— V_{GS}



I_S —— V_{SD}

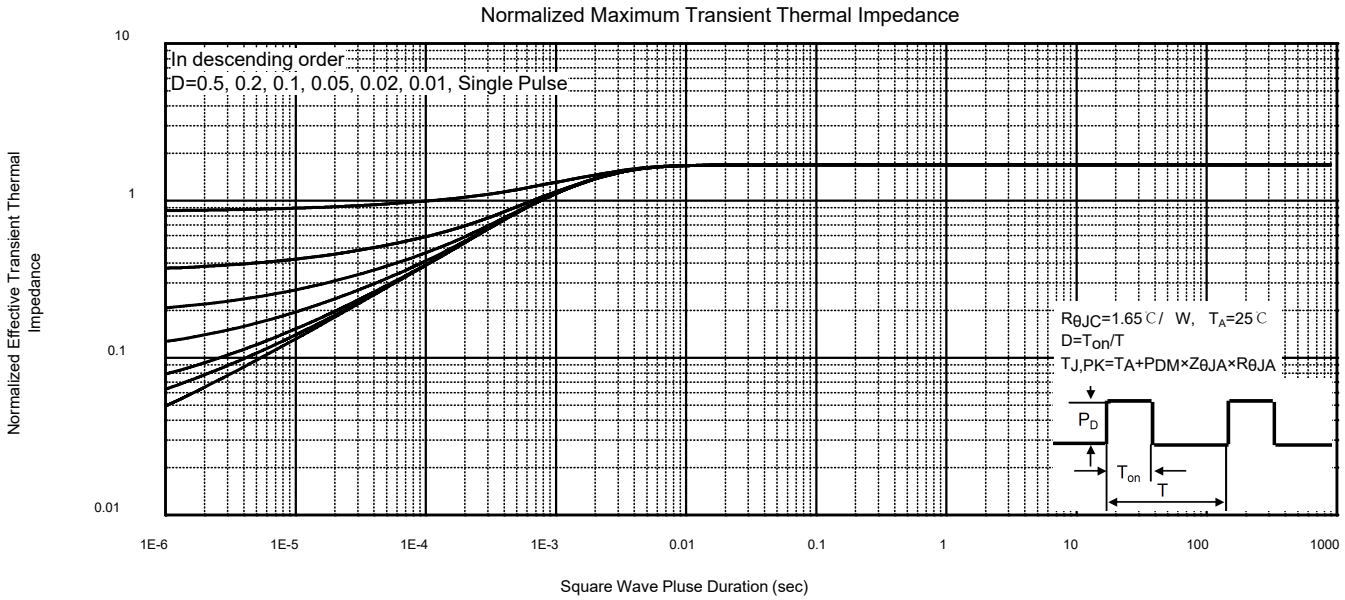


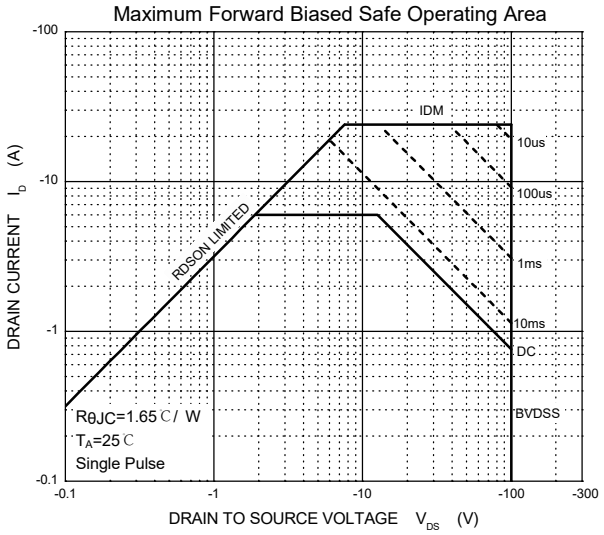
Threshold Voltage



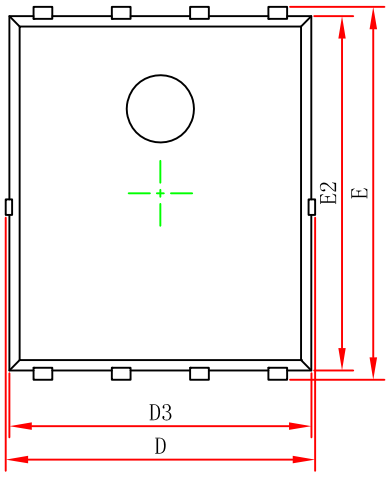
Typical Characteristics

P-Channel MOS

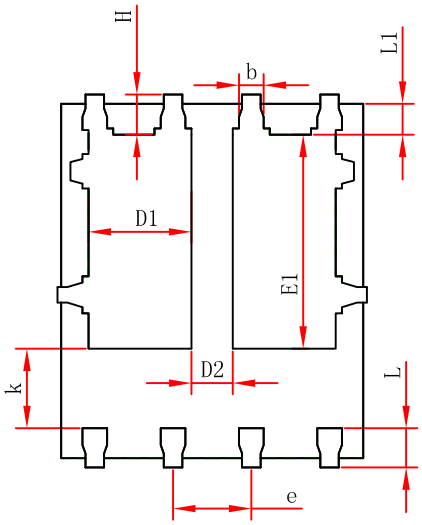




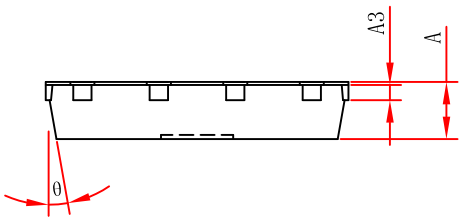
PDFNWB5×6-8L-A Package Outline Dimensions



Top View
[顶视图]



Bottom View
[背视图]



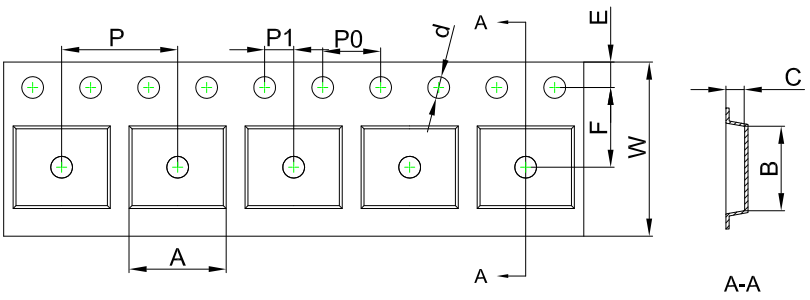
Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254 REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	1.470	1.870	0.058	0.074
D2	0.470	0.870	0.019	0.034
E1	3.375	3.575	0.133	0.141
D3	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP.		0.050TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

PDFNWB5×6-8L-A Embossed Carrier Tape

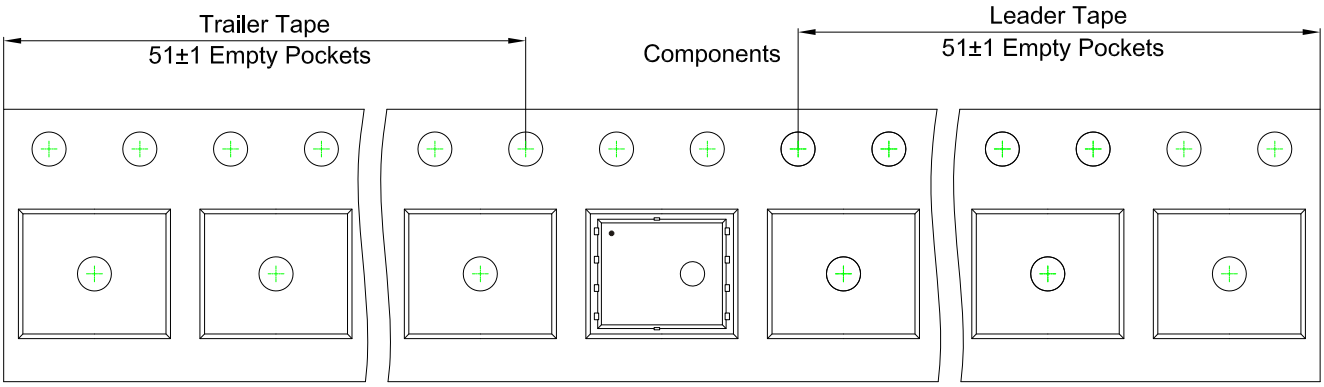


Packaging Description:

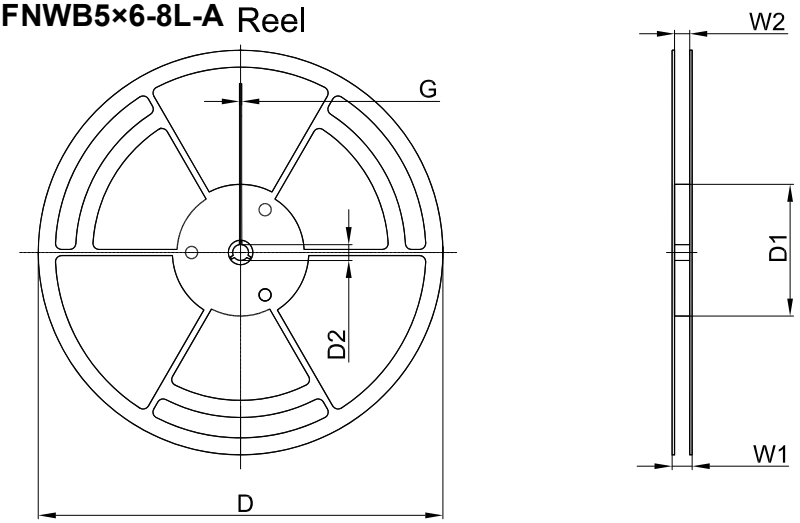
PDFNWB5×6-8L-A parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 5,000 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
PDFNWB5×6-8L-A	6.30	5.30	1.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

PDFNWB5×6-8L-A Tape Leader and Trailer



PDFNWB5×6-8L-A Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	G	W1	W2
13"Dia	Ø330.00	100.00	13.00	1.90	17.60	12.40

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
5,000 pcs	13 inch	10,000 pcs	340×336×29	50,000 pcs	353×346×365