BORN SEMICONDUCTOR

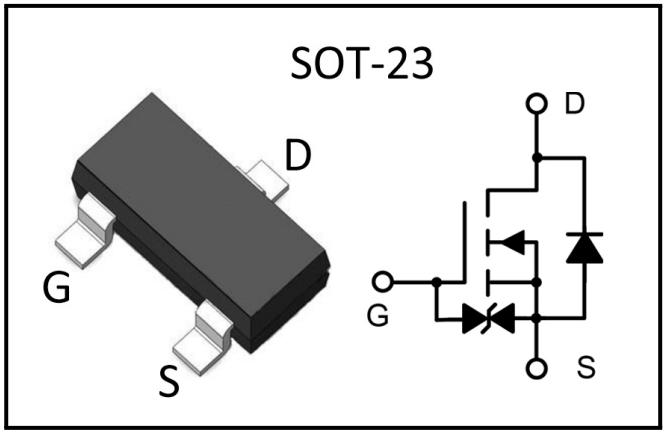
2SK3018

N-Channel MOSFET

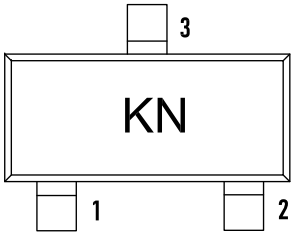
Features

- V_{DS}=30V
- I_D=0.1A
- $R_{DS(ON)}$<8Ω(V_{GS}=4V)
- $R_{DS(ON)}$<13Ω(V_{GS}=2.5V)

Package



Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
2SK3018	SOT-23	KN	3K	Tape and reel

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	0.1	A
I_{DM}	Pulsed Drain Current(1)	0.4	A
P_D	Maximum Power Dissipation	0.2	W
T_J	Operating Junction Temperature	150	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C

Note1: PW ≤ 10us, Duty Cycle ≤1%

BORN SEMICONDUCTOR , INC. ALL RIGHT RESERVED

Specifications are subject to change without notice.
Please refer to http://*www.born-tw.com* for current information.

2SK3018

N-Channel MOSFET

Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D = 250uA	30	–	–	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 30V, V_{GS} = 0V	–	–	1	uA
I_{GSS}	Gate Body Leakage Current	V_{GS} = ±20V, V_{DS} = 0V	–	–	±1	uA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} =3V, I_D = 0.1mA	0.8	–	1.5	V
$R_{DS(on)}$	Drain-Source On-State Resistance	V_{GS} = 4V, I_D = 10mA	–	–	8	Ω
		V_{GS}=2.5V, I_D = 1mA	–	–	13	
g_{fs}	Forward Transconductance	V_{DS} = 3V, I_D = 10mA	20	–	–	mS
C_{iss}	Input Capacitance	V_{GS}=0V,V_{DS}=5V,f=1MHz	–	13	–	pF
C_{oss}	Output Capacitance		–	9	–	
C_{rss}	Reverse Transfer Capacitance		–	4	–	
$t_{d(on)}$	Turn-On Delay Time	V_{GS}=5V,V_{DS}=5V,I_D=10mA, R_L=500Ω,R_G=10Ω	–	15	–	ns
t_r	Turn-On Rise Time		–	35	–	
$t_{d(off)}$	Turn-Off Delay Time		–	80	–	
t_f	Turn-Off Fall Time		–	80	–	

BORN SEMICONDUCTOR , INC. ALL RIGHT RESERVED

Specifications are subject to change without notice.
Please refer to http://*www.born-tw.com* for current information.

2SK3018

N-Channel MOSFET

Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1 :Typical output characteristics

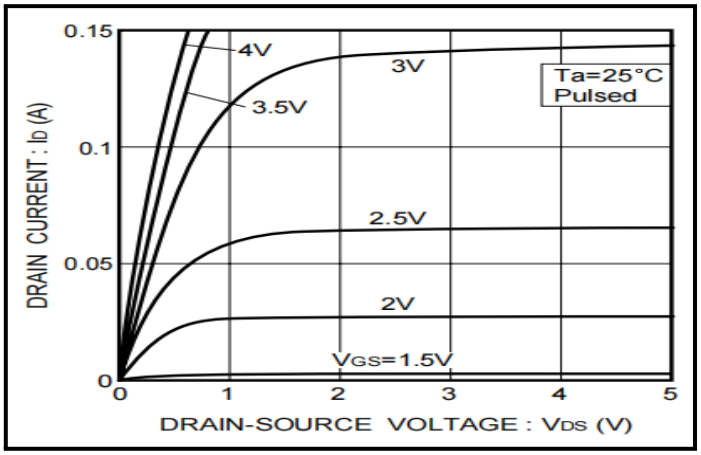


Figure 2 :Typical transfer characteristics

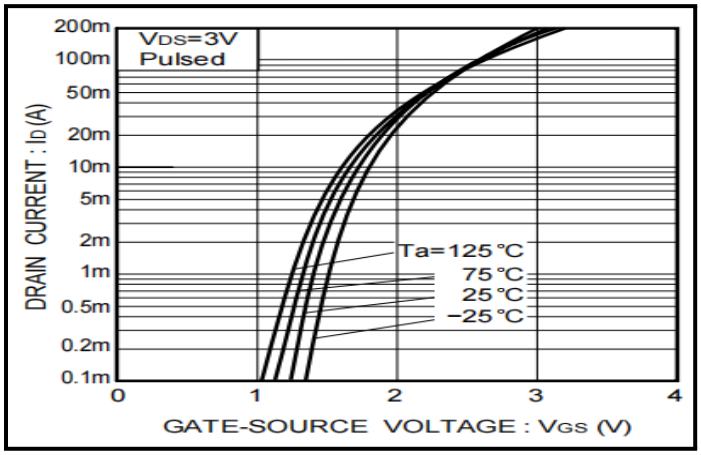


Figure 3 :Gate threshold voltage vs channel tempera-ture

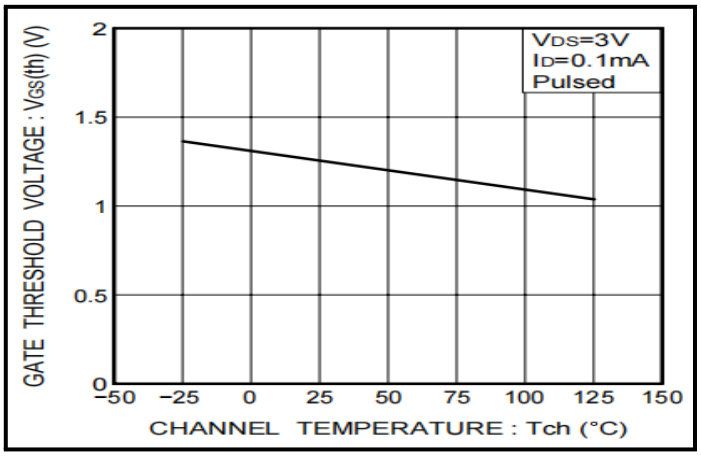


Figure 4 :Static drain-source on-state resistance vs. drain current (I)

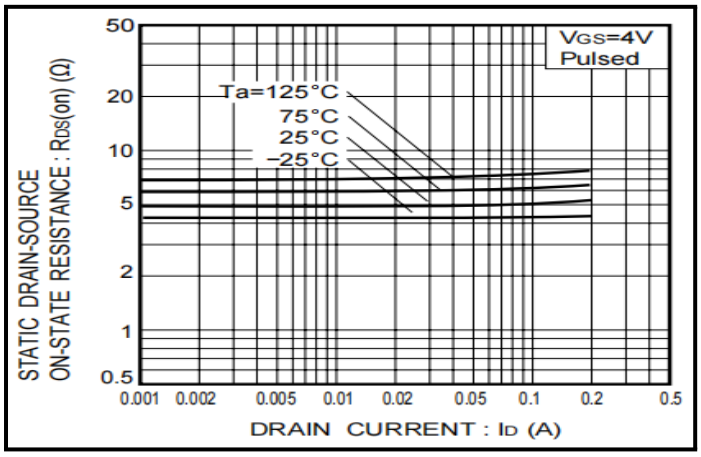


Figure 5 :Static drain-source on-state resistance vs. drain current (II)

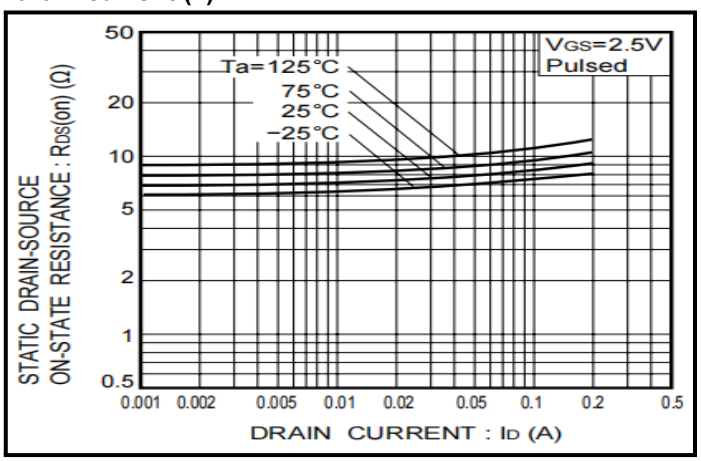
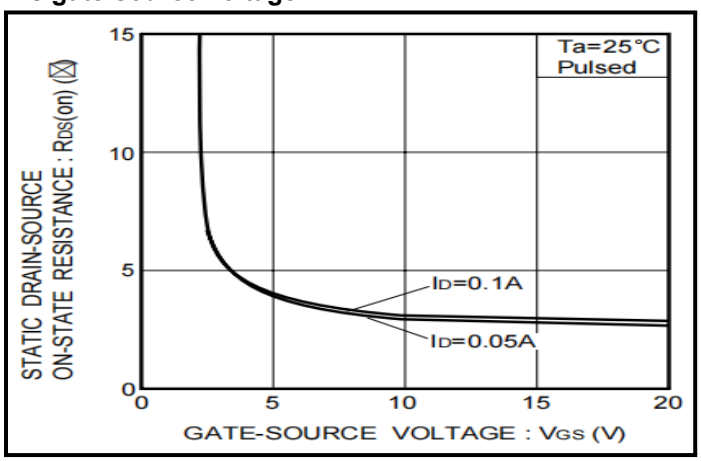


Figure 6 :Static drain-source on-state resistance vs.gate-source voltage



BORN SEMICONDUCTOR , INC. ALL RIGHT RESERVED

Specifications are subject to change without notice.
Please refer to http://*www.born-tw.com* for current information.

Revision: 2022-Jan-1-A

2SK3018

N-Channel MOSFET

Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 7 :Static drain-source on-state resistance vs. channel temperature

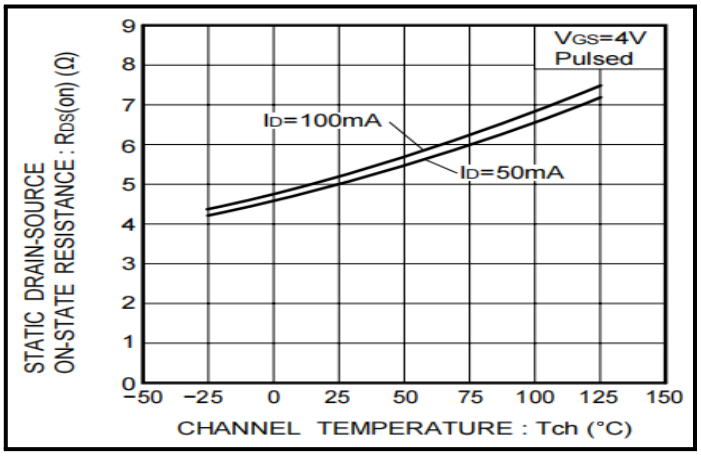


Figure 8 :Forward transfer admittance vs. drain current

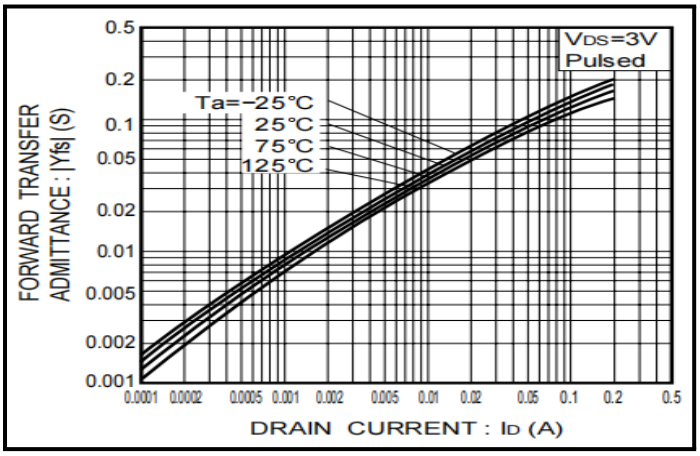


Figure 9 :Reverse drain current vs.source-drain voltage (I)

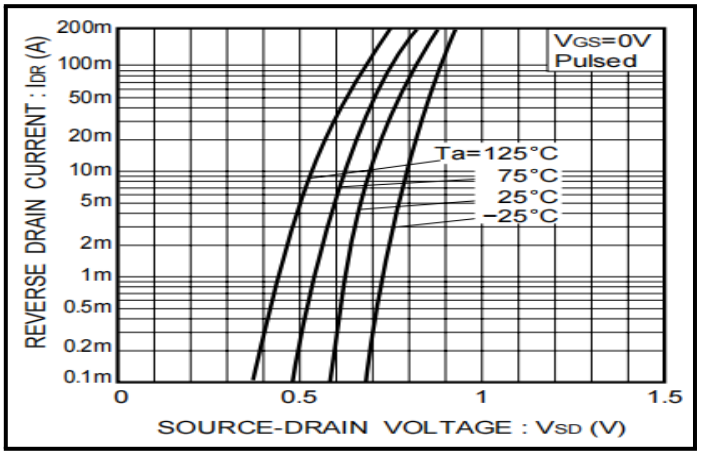


Figure 10 :Reverse drain current vs.source-drain voltage (II)

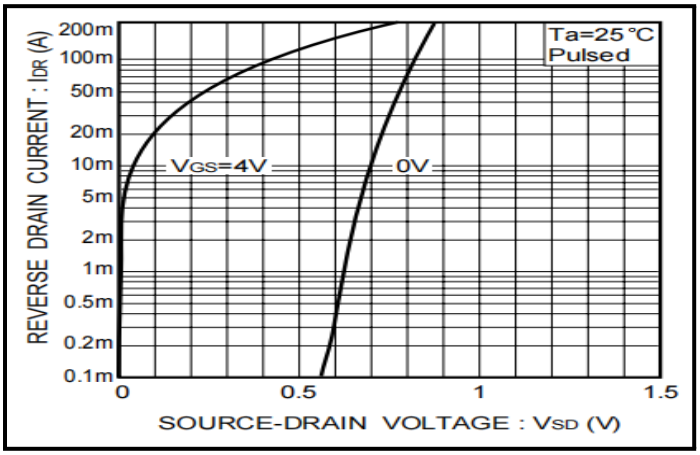


Figure 11 :Typical capacitance vs.drain-source voltage

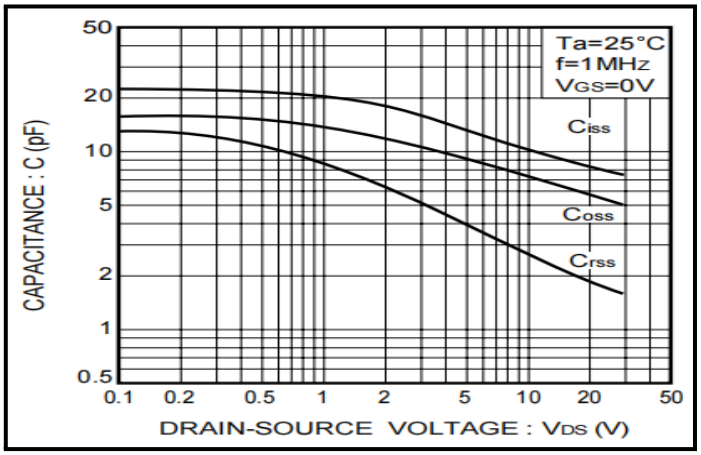
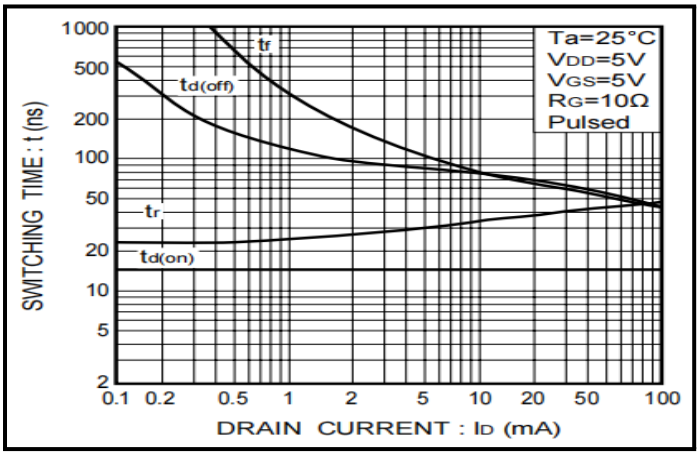


Figure12:Switching characteristics



BORN SEMICONDUCTOR , INC. ALL RIGHT RESERVED

Specifications are subject to change without notice.
Please refer to http://www.born-tw.com for current information.

2SK3018

N-Channel MOSFET

Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 13 :Switching time measurement circuit

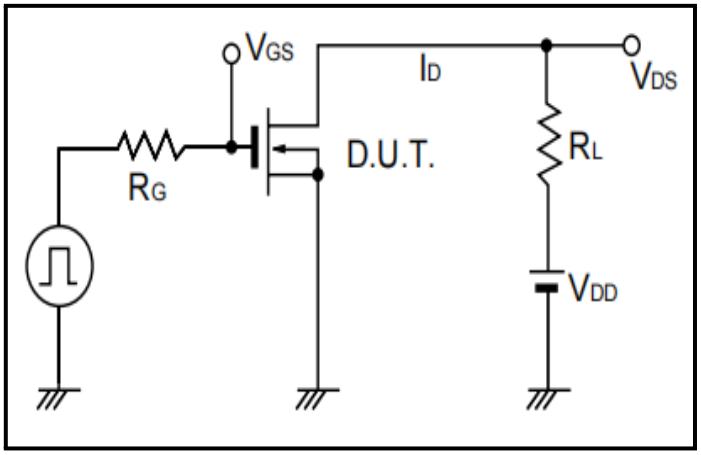
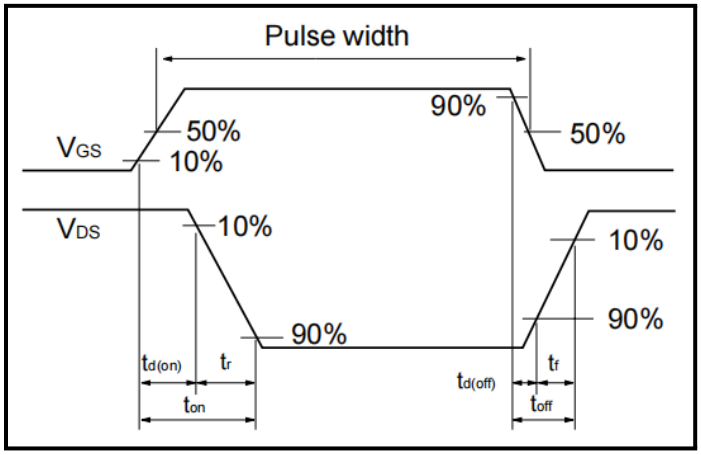


Figure 14 :Switching time waveforms



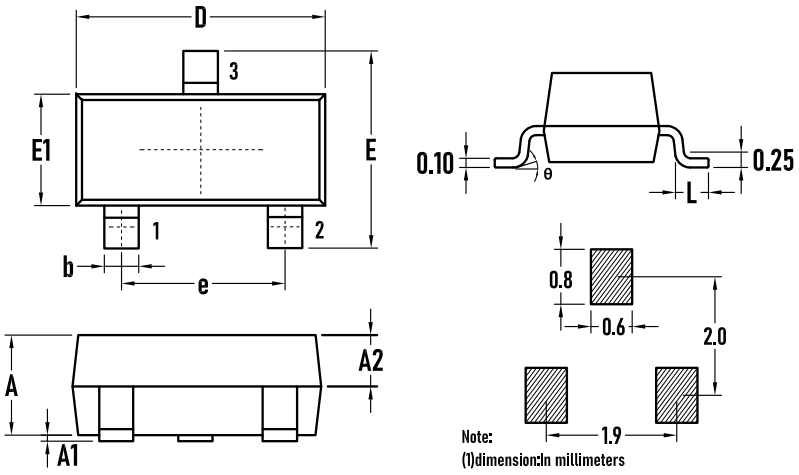
BORN SEMICONDUCTOR , INC. ALL RIGHT RESERVED

Specifications are subject to change without notice.
Please refer to http://*www.born-tw.com* for current information.

2SK3018

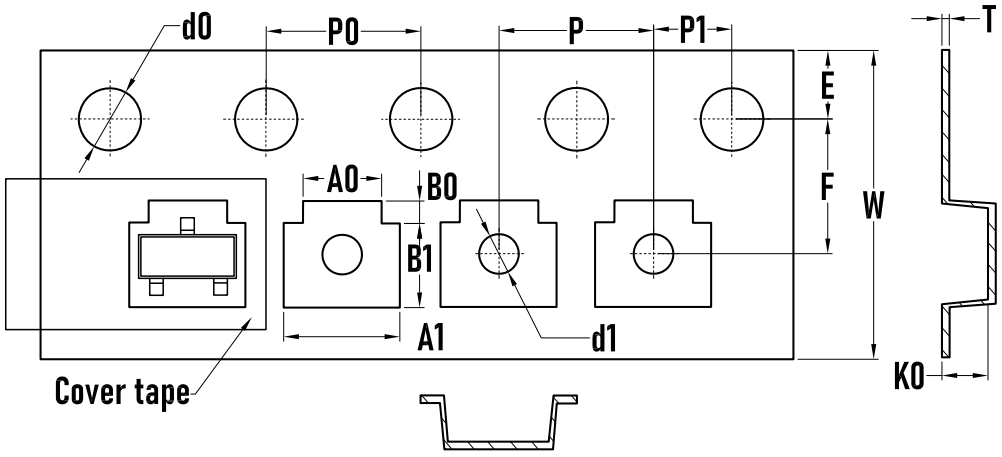
N-Channel MOSFET

Outline Drawing - SOT-23



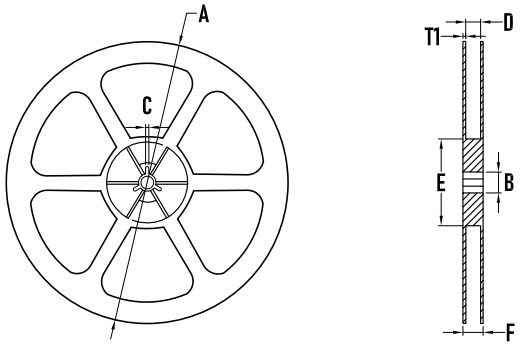
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.01	–	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	–	8°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

BORN SEMICONDUCTOR , INC. ALL RIGHT RESERVED

Specifications are subject to change without notice.
Please refer to http://*www.born-tw.com* for current information.

Revision: 2022-Jan-1-A