

BRCS3019WB

Rev.B Jun.-2024

/ Descriptions

SOT-523 N MOS
N-CHANNEL MOSFET in a SOT-523 Plastic Package.

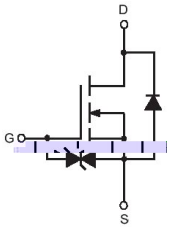
/ Features

Sensitive gate trigger current and Low Holding current.ESD protected,HF Product.

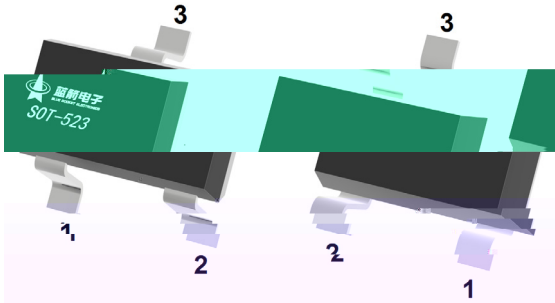
/ Applications

Intended for use in general purpose switching and phase control applications.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 S PIN 3 D

/ Marking

Marking	KN
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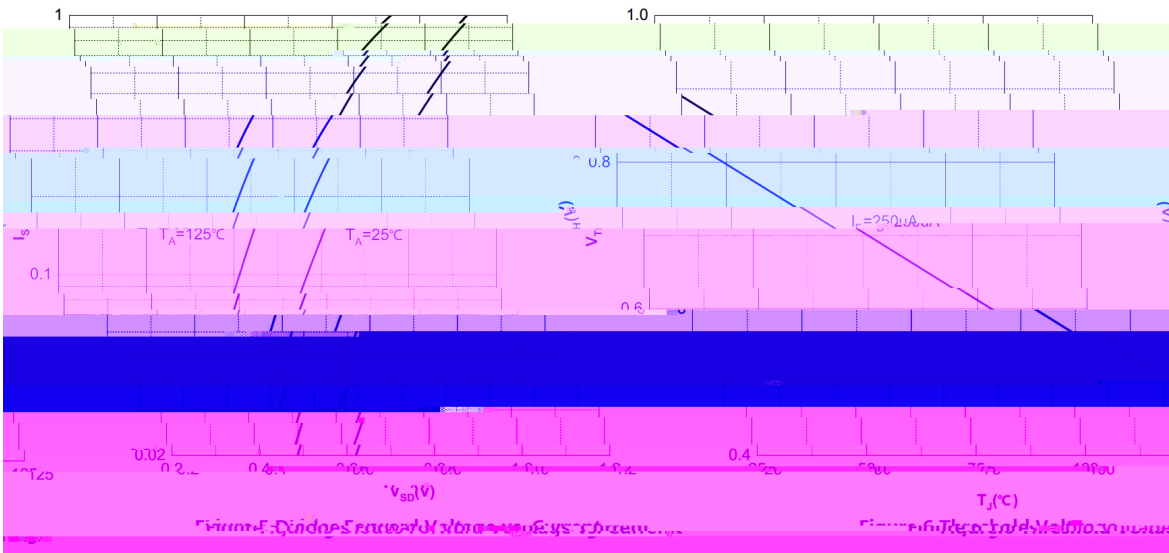
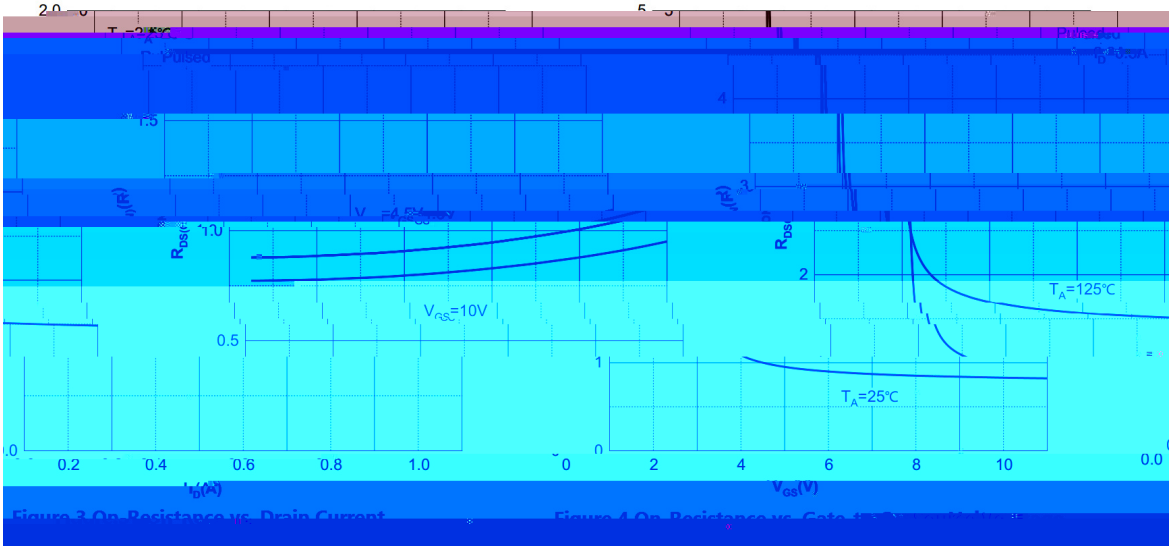
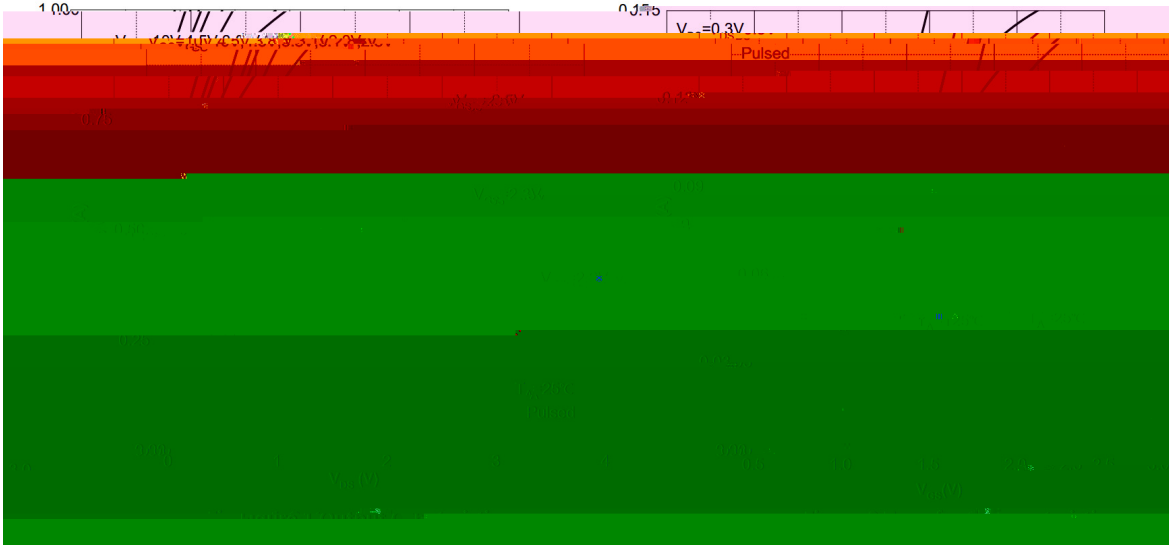
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current	I_D	300	mA
Drain Current – Pulsed	I_{DM}	1200	mA
Power Dissipation	P_D	250	mW
Junction Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Thermal Resistance from Junction to Ambient	R_{JA}	500	/W

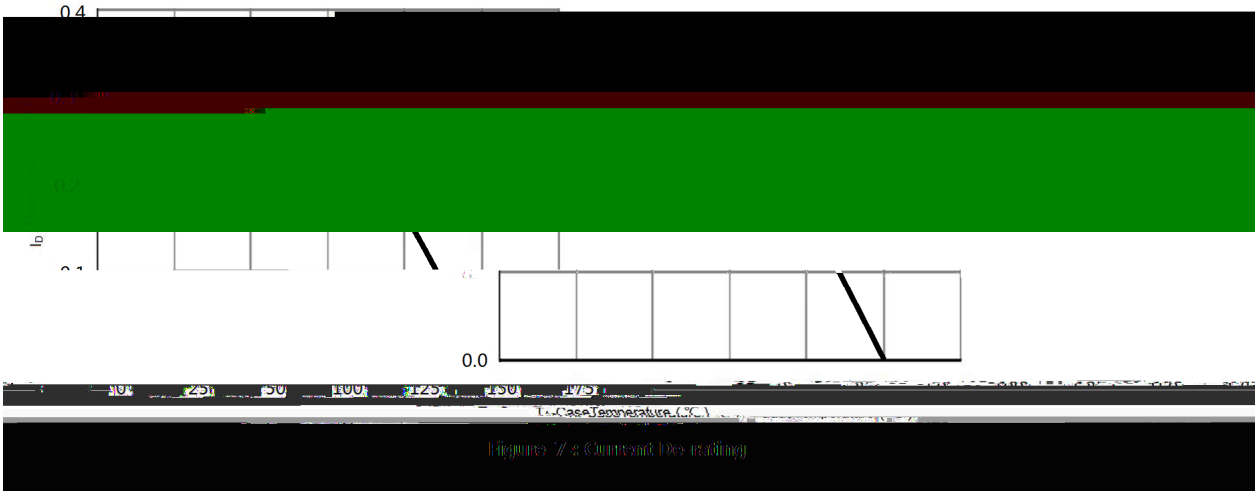
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	V_{DSS}	$V_{GS}=0$ $I_D=250$ A	50			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=50V$			1.0	A
Gate-Source Leakage current	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 20V$			± 2	A
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=0.3A$		0.92	2.5	
	$R_{DS(on)(2)}$	$V_{GS}=4.5V$ $I_D=0.2A$		0.98	3	
	$R_{DS(on)(3)}$	$V_{GS}=2.5V$ $I_D=0.01A$		1.2	4.5	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=300mA$			1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	0.6	0.9	1.5	V
Input Capacitance	C_{iss}	$V_{GS}=0V,$ $f=1MHz,$ $V_{DS}=15V$		30		pF
Output Capacitance	C_{oss}			5.2		
Reverse Transfer Capacitance	C_{rss}			3.3		
Gate Resistance	R_g	$V_{DS} = 0V,$ $V_{GS} = 0V,$ $f = 1MHz$		157		
Turn On Delay Time	$t_{d(ON)}$	$V_{GS} =5V,$ $V_{DD}=5V,$ $R_L=500$, $R_G=10$		15		ns
Rise Time	t_r			35		
Turn Off Delay Time	$t_{d(OFF)}$			80		
Fall Time	t_f			80		

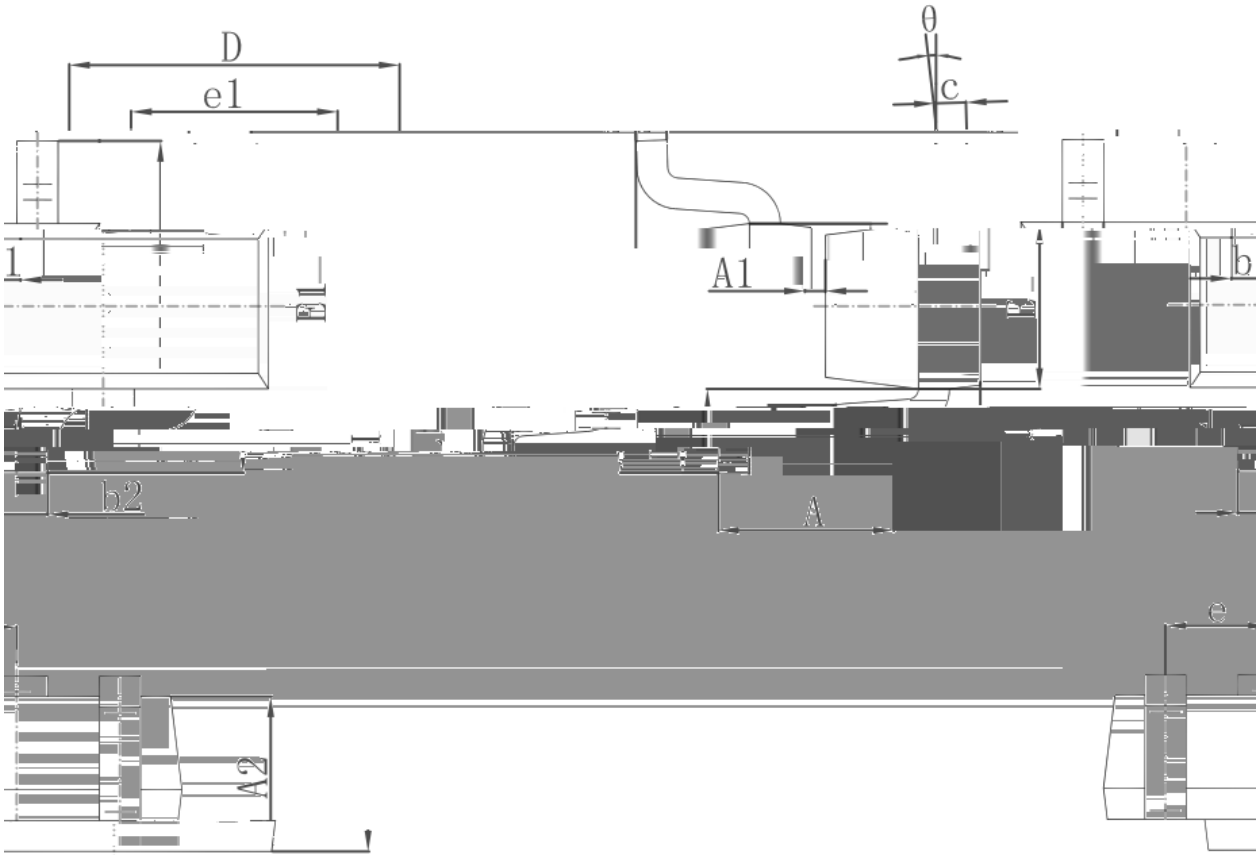
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

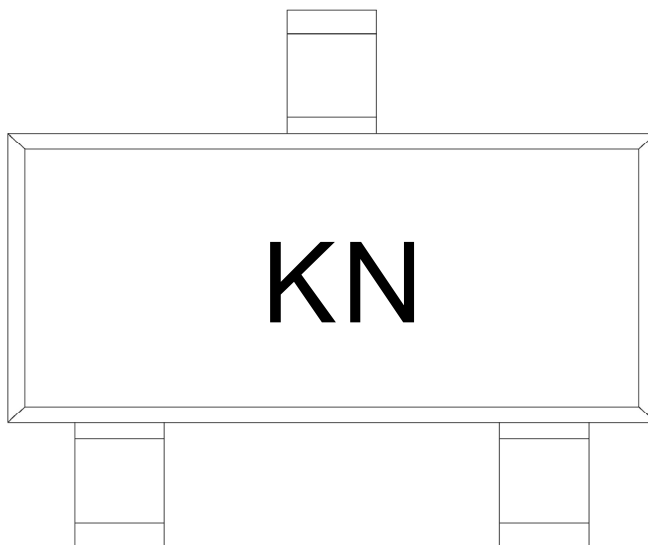


/ Package Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches		Symbol
	Min.	Max.	Min.	Max.	
A	0.700	0.900	0.028	0.035	A
A1	0.700	0.800	0.028	0.031	A1
A2	0.700	0.700	0.028	0.028	A2
b	0.700	0.900	0.028	0.035	b
b1	0.700	0.900	0.028	0.035	b1
b2	0.700	0.900	0.028	0.035	b2
c	0.100	0.100	0.004	0.008	c
D	1.750	0.057	0.069	0.004	D
e1	1.100	0.035	0.043	0.004	e1
L	REF.	0.016 REF.	REF.	0.004	L
L1	0.460	0.010	0.018	0.004	L1
theta	8°	0°	8°	0°	theta

/ Marking Instructions



KN

Note:

KN: Product Type Code

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- | | | | | | |
|---|-------|-----|-------|----------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5 | sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

605±5 (/ -5.7(Packagling)24286(SPEC.()J/T7 1 Tf03.4485 32.3713 TD.0004 Tc-35.65309:602513T