/ Descriptions

SOT-523 N MOS

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

/ Features

V_{DS}(V)=20 V I_D=0.75A

$R_{DS(ON)}$@4.5V≤380mΩ(Typ.170mΩ)

$R_{DS(ON)}$@2.5V≤450mΩ(Typ.230mΩ)

$R_{DS(ON)}$@1.8V≤590mΩ(Typ.330mΩ)

2KV ESD protected up to 2KV.

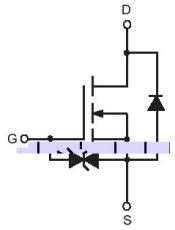
HF Product.

/ Applications

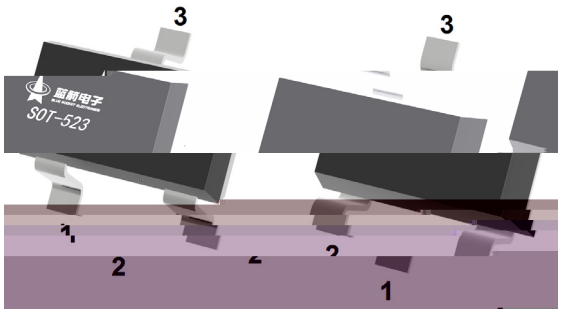
DC/DC

Load Switching, Low Current Inverters, Low Current DC/DC Converters.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 S PIN 3 D

/ Marking

See Marking Instructions.

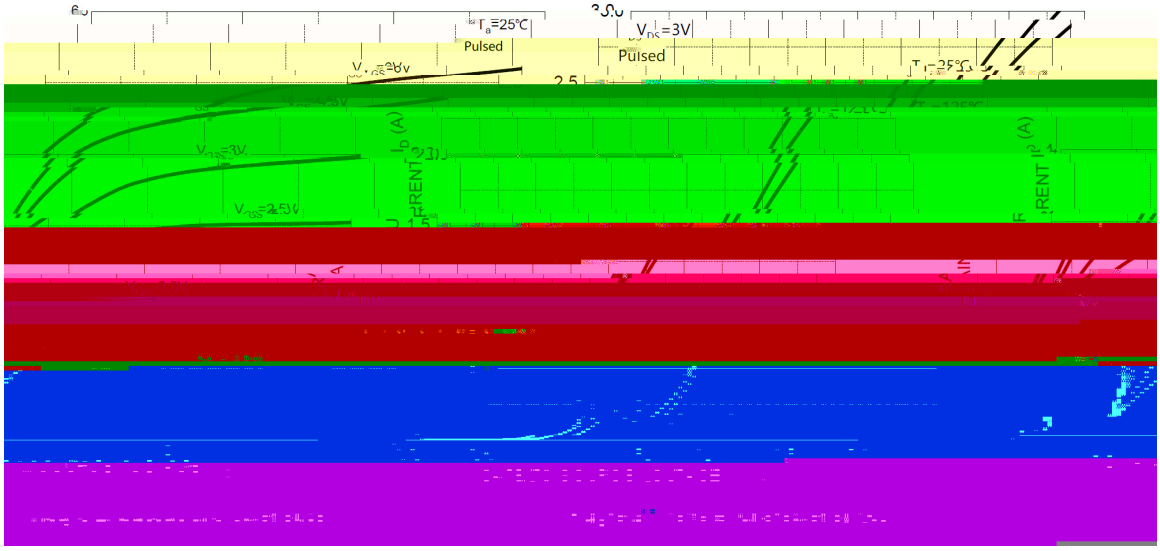
/ Absolute Maximum Ratings(Ta=25)

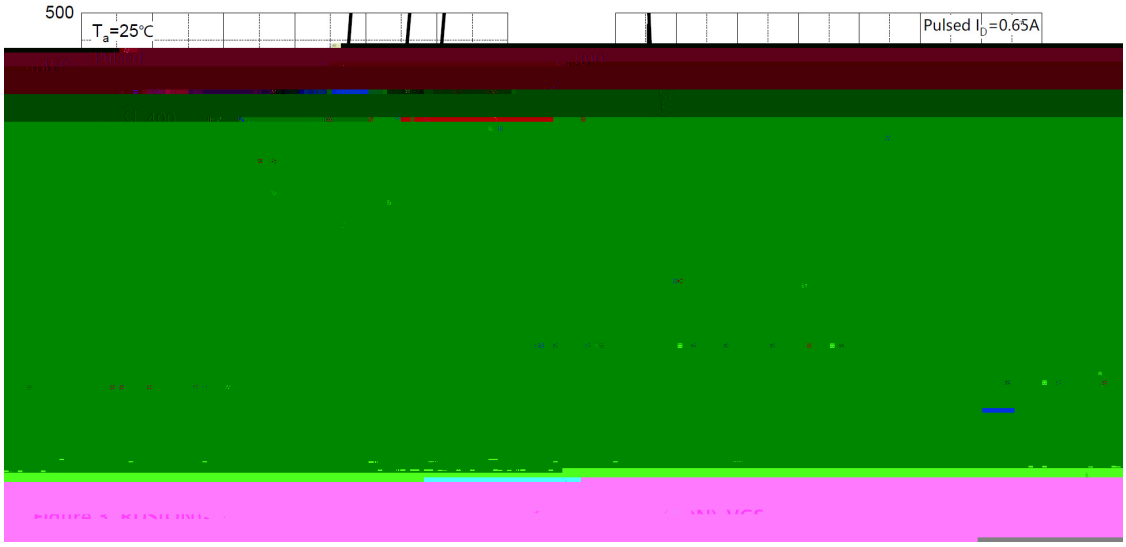
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Drain Current	I_D	0.75	A
Drain Current – Pulsed	I_{DM}	3.0	A
Power Dissipation	P_D	0.15	W
Junction Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	/W

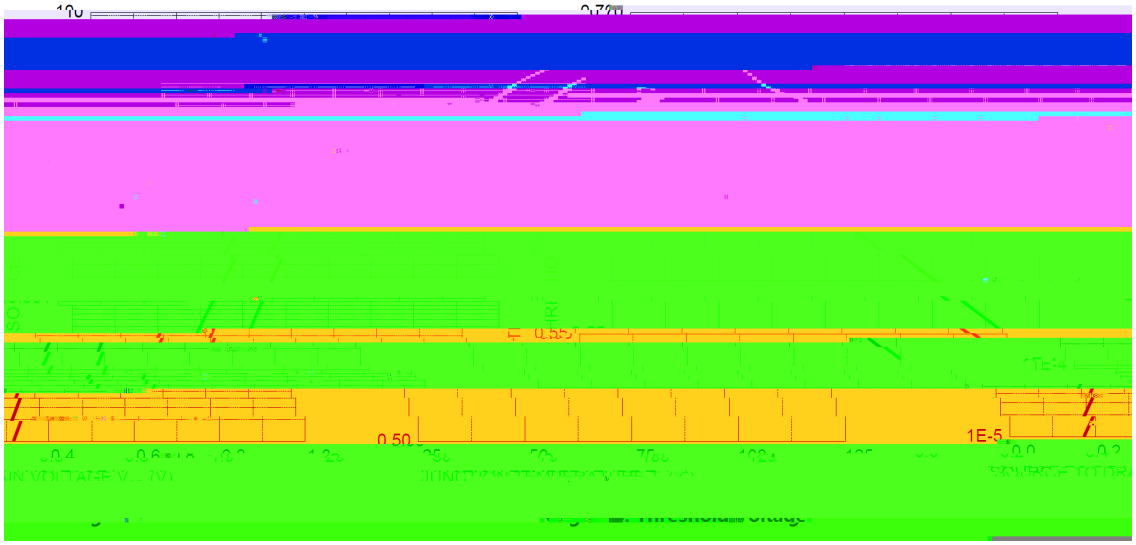
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	V_{DSS}	V_{GS}=0	I_D=250uA	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0	V_{DS}=20V			1	μA
Gate–Body Leakage	I_{GSS}	V_{DS}=0V	V_{GS}=±10V			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250uA	0.4	0.7	1.0	V
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	V_{GS}=4.5V	I_D=650mA		170	380	mΩ
	$R_{DS(on)(2)}$	V_{GS}=2.5V	I_D=550mA		230	450	mΩ
	$R_{DS(on)(3)}$	V_{GS}=1.8V	I_D=450mA		330	590	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=150mA			1.2	V
Input Capacitance	C_{iss}	V_{DS}=10V f=1.0MHz	V_{GS}=0V		55		pF
Output Capacitance	C_{oss}				15		
Reverse Transfer Capacitance	C_{rss}				10		
Total Gate Charge	Q_g	V_{GS}=4.5V, I_D=0.65A	V_{DS}=10V,		0.8		nC
Gate Source Charge	Q_{gs}				0.2		
Gate Drain Charge	Q_{gd}				0.01		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=4.5V I_D=0.5A	V_{DS}=10V R_{GEN}=10Ω		6.7		ns
Turn-On Rise Time	t_r				4.8		
Turn-Off Delay Time	$t_{d(off)}$				17.3		
Turn-Off Fall Time	t_f				7.4		

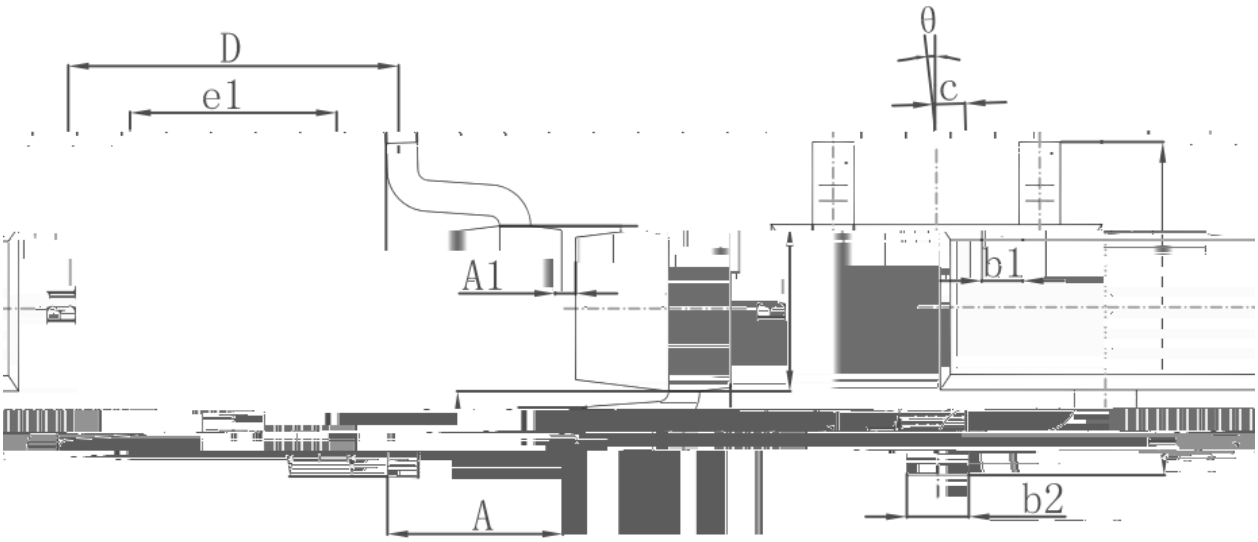
/ Electrical Characteristic Curve







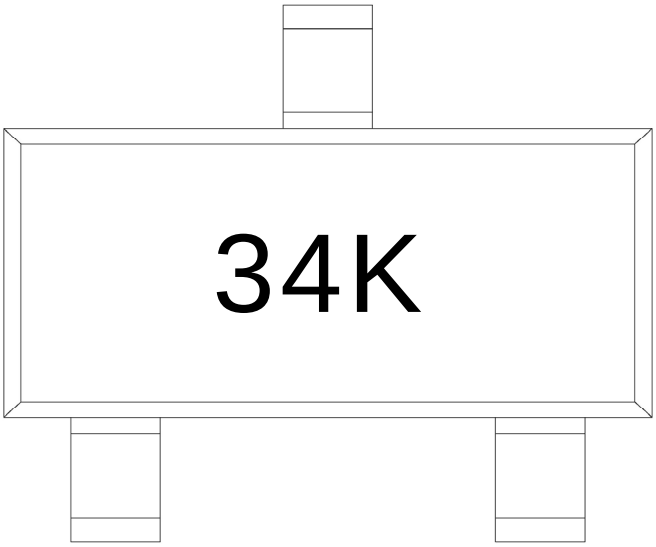
/ Package Dimensions





Millimeters	Dimensions In Inches		Symbol	Dimensions I
Max.	Min.	Max.		Min.
0.900	0.028	0.035	A	0.700
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.028	0.031	[illegible]	A2	0.700
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

/ Marking Instructions



34K

Note:

34K: Product Type Code

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

Note:

1 150 180 60 90sec;

2 245±5 5±0.5sec;

3 2 10 /sec.

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL