Rev. A Jun.-2022

SOT23-3 N MOS N- CHANNEL MOSFET in a SOT23-3 Plastic Package.

V_{DS} (V) = 30V
I_D = 5.8 A (V_{GS} = 10V)
$R_{DS(ON)}$ < 32m (V_{GS} = 10V)
$R_{DS(ON)}$ < 36m (V_{GS} = 4.5V)
$R_{DS(ON)}$ < 56m (V_{GS} = 2.5V)
AEC-Q101 Qualified to AEC-Q101 Standards for High Reliability, HF Product.

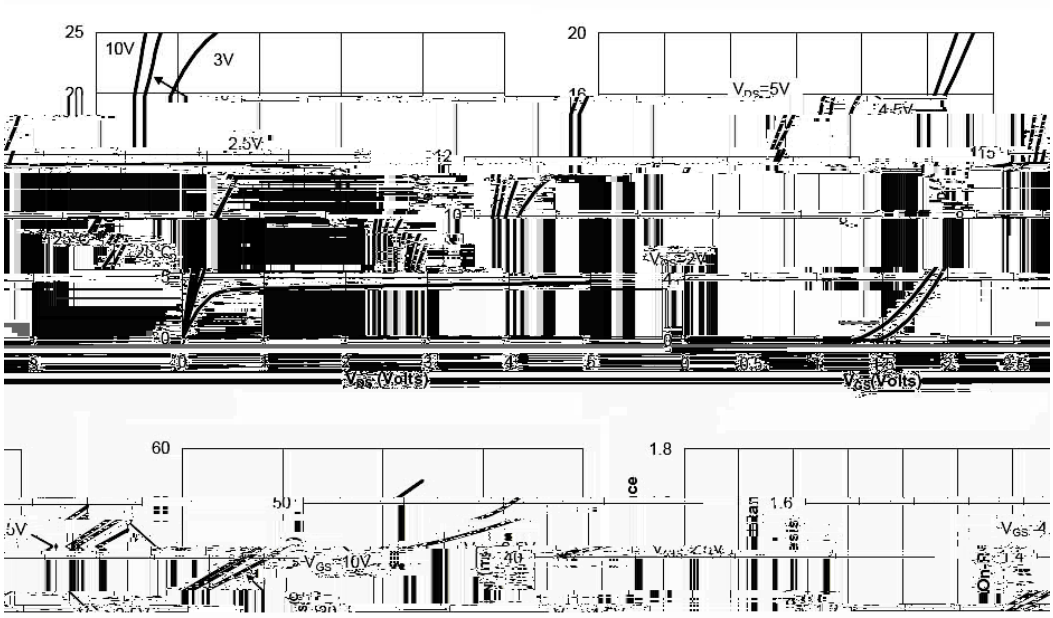
This device is suitable for use as a load switch or in PWM applications, Meet the stringent requirements of automotive applications.

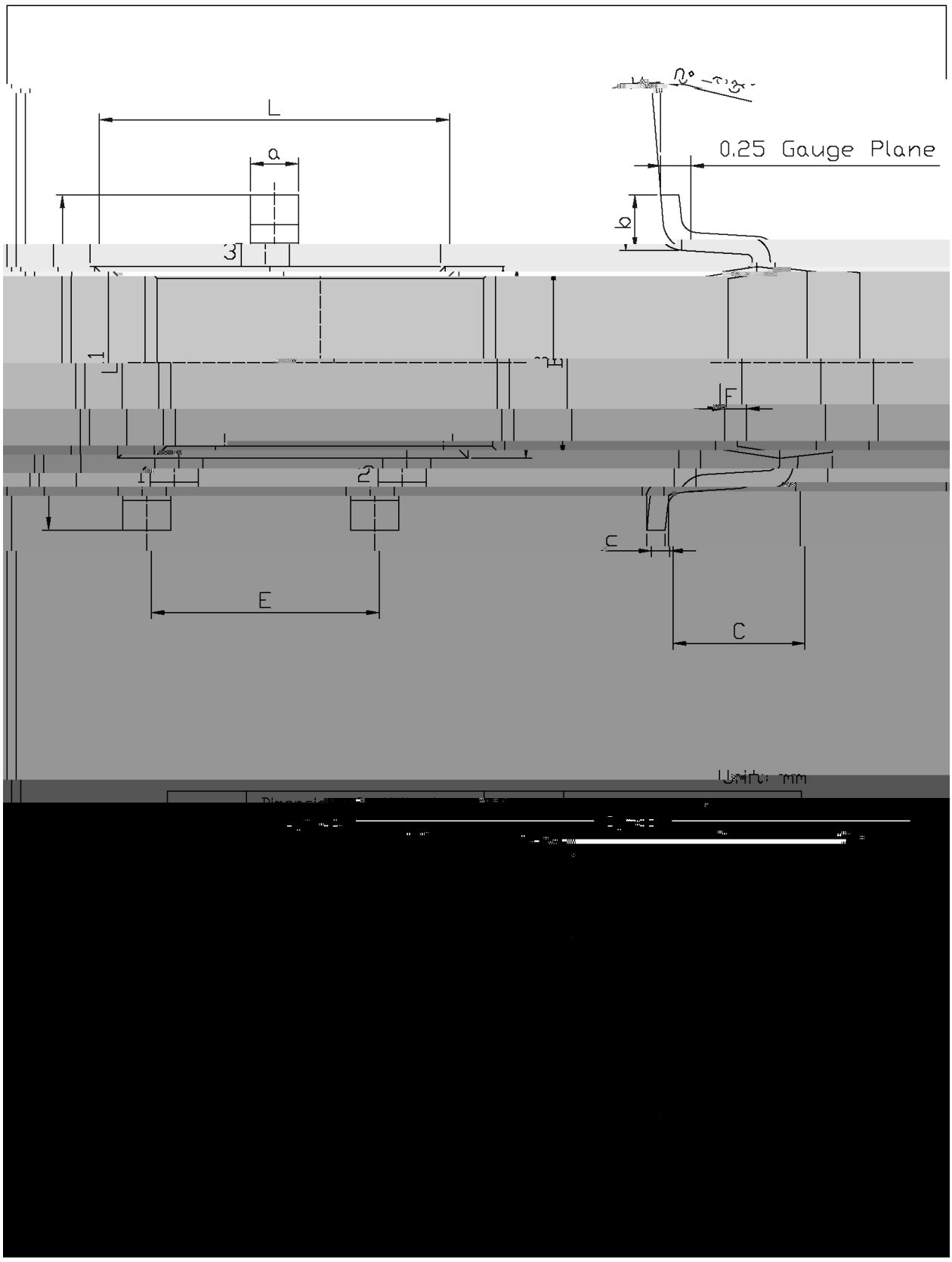
PIN1 G PIN 2 S PIN 3 D

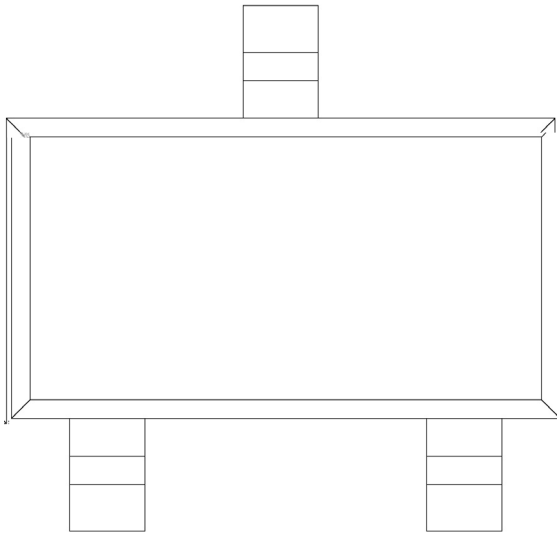
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Drain Current – Continuous	I_D	5.8	A
Drain Current- Continuous	I_D(T_a=70)	4.9	A
Pulsed Drain Current	I_{DM}	30	A
Gate-Source Voltage	V_{GS}	±12	V
Total Power Dissipation	P_D	1.4	W
Total Power Dissipation	P_D(T_a=70)	1.0	W
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=24V V_{GS}=0V			1	μA
		V_{DS}=24V V_{GS}=0V T_J=55			5	μA
Gate–Body Leakage.	I_{GSS}	V_{GS}=±12V V_{DS}=0V			±0.1	μA
On–State Drain Current	$I_{D(on)}$	V_{GS}=4.5V V_{DS}=5V	30			A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	0.65	1.1	1.45	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	V_{GS}=10V I_D=5.8A		29	32	m
	$R_{DS(on)(2)}$	V_{GS}=10V I_D=5.8A T_J=125			39	
	$R_{DS(on)(3)}$	V_{GS}=4.5V I_D=5A		32	36	
	$R_{DS(on)(4)}$	V_{GS}=2.5V I_D=4A		40	56	
Forward Transconductance	g_{FS}	V_{DS}=5V I_D=5A	10	15		S
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A		0.77	1	V
Input Capacitance	C_{iss}	V_{DS}=15V V_{GS}=0V f=1MHz		823	1030	pF
Output Capacitance	C_{oss}			99		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	V_{DS}=15V V_{GS}=0V f=1MHz		823	1030	pF
Output Capacitance	C_{oss}			99		
Reverse Transfer Capacitance	C_{rss}			77		
Gate resistance	R_g	V				


25
10V
3V
2.5V
20
12
10
8
6
4
2
0
0
1
2
3
4
5
V_{DS} (Volts)
20
16
V_{DS}=5V
4.5V
12
8
4
0
0
1
2
3
4
5
V_{GS} (Volts)
60
50
40
V_{GS}=10V
1.8
1.6
1.4
V_{GS}=4


L
a
3
1
2
E
0.25 Gauge Plane
b
F
c
C
Unit: mm



Q

A0

H

Note:

Q: Automobile halogen-free product Code