

/ Revised record

A	2019.12.24				
A	2021-12-24	6-7	TO-252#		
A	2022-7-27	all	Q AEC-Q101 Q 245±5°C 0.5sec 5°C 5± 255± 5±0.5sec		

/ Descriptions

TO-252 N

N-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Features

 $R_{DS(on)}$ C_{rss}

AEC-Q101

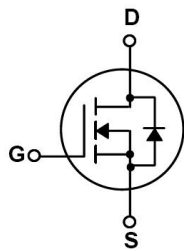
Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, Trench Technologies, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

/ Applications

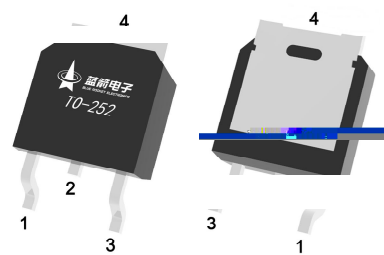
DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current	$I_D(T_c=25^{\circ}\text{C})$	50	A
Drain Current - Pulsed	I_{DM}	200	A
Gate-Source Voltage	V_{GS}	± 20	V
Avalanche Current	I_{AS}	20	A
Single Pulsed Avalanche Energy	E_{AS}	170	mJ
Power Dissipation	$P_D(T_c=25^{\circ}\text{C})$	60	W
Storage Temperature Range	T_{stg}	-55~150	$^{\circ}\text{C}$
Thermal Resistance-Junction to Case	$R_{\theta JC}$	2.1	$^{\circ}\text{C/W}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	50	

Parameter

Symbol

Test Conditions

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=30V$ $R_L=1.5\ \Omega$ $R_{GEN}=3\Omega$		8		ns
Turn-On Rise Time	t_r			5		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5.5		

/ Electrical Characteristic Curve

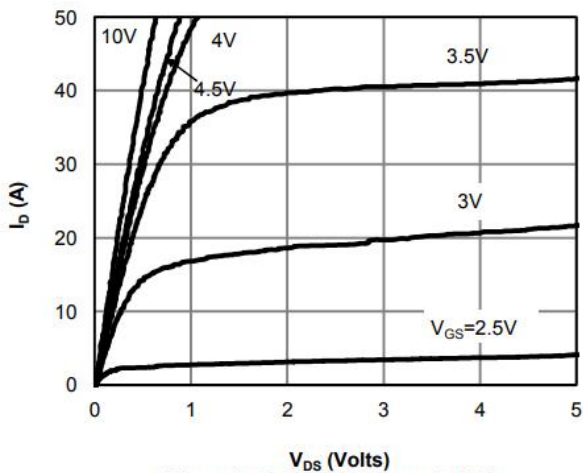


Figure 1: On-Region Characteristics

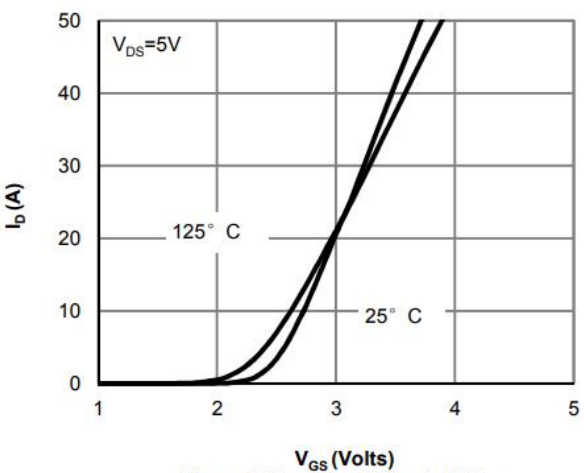
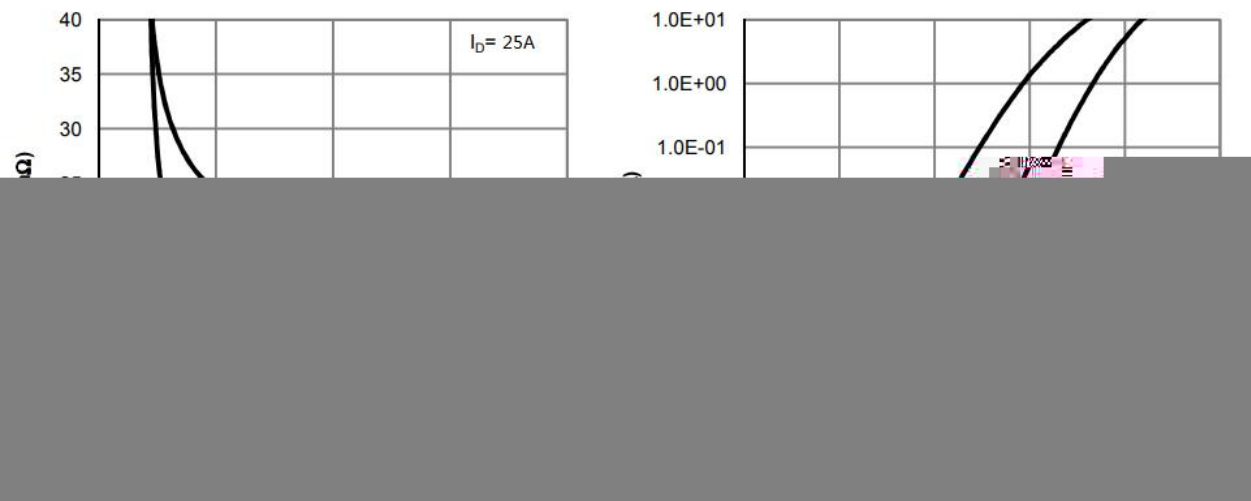
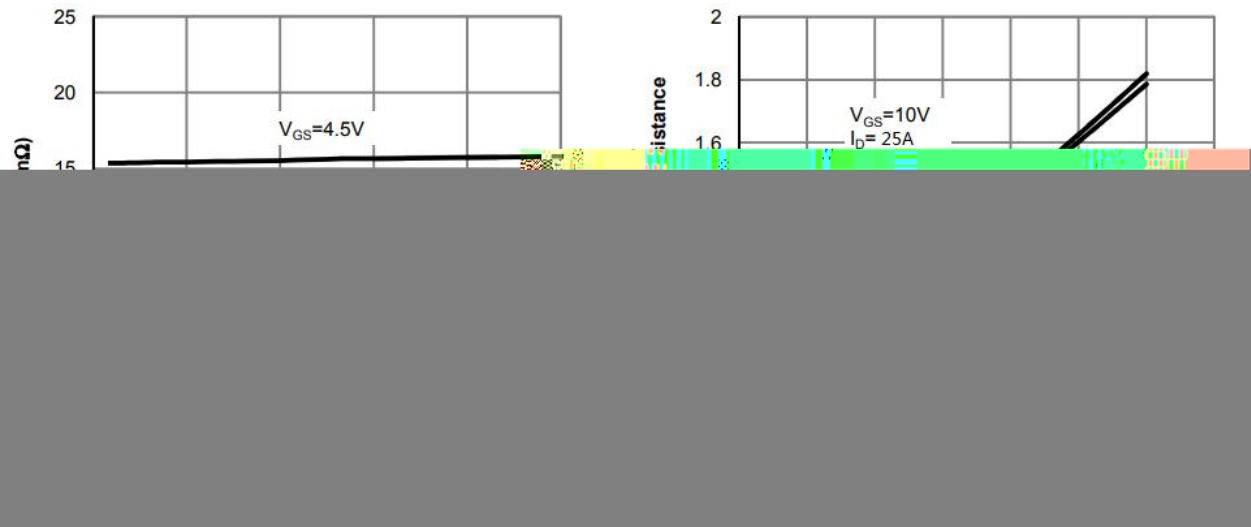
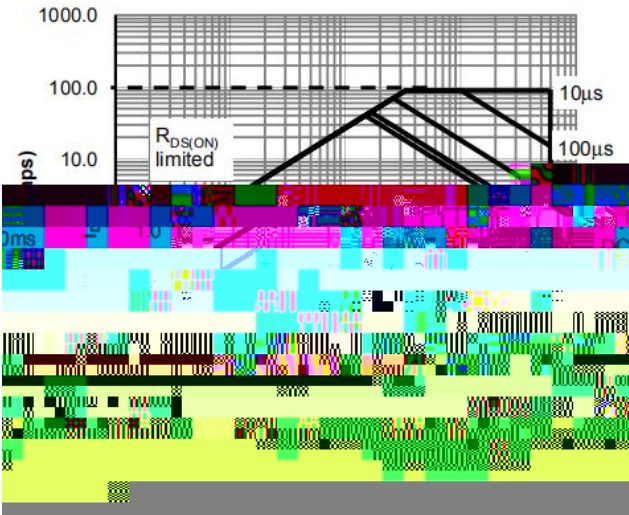


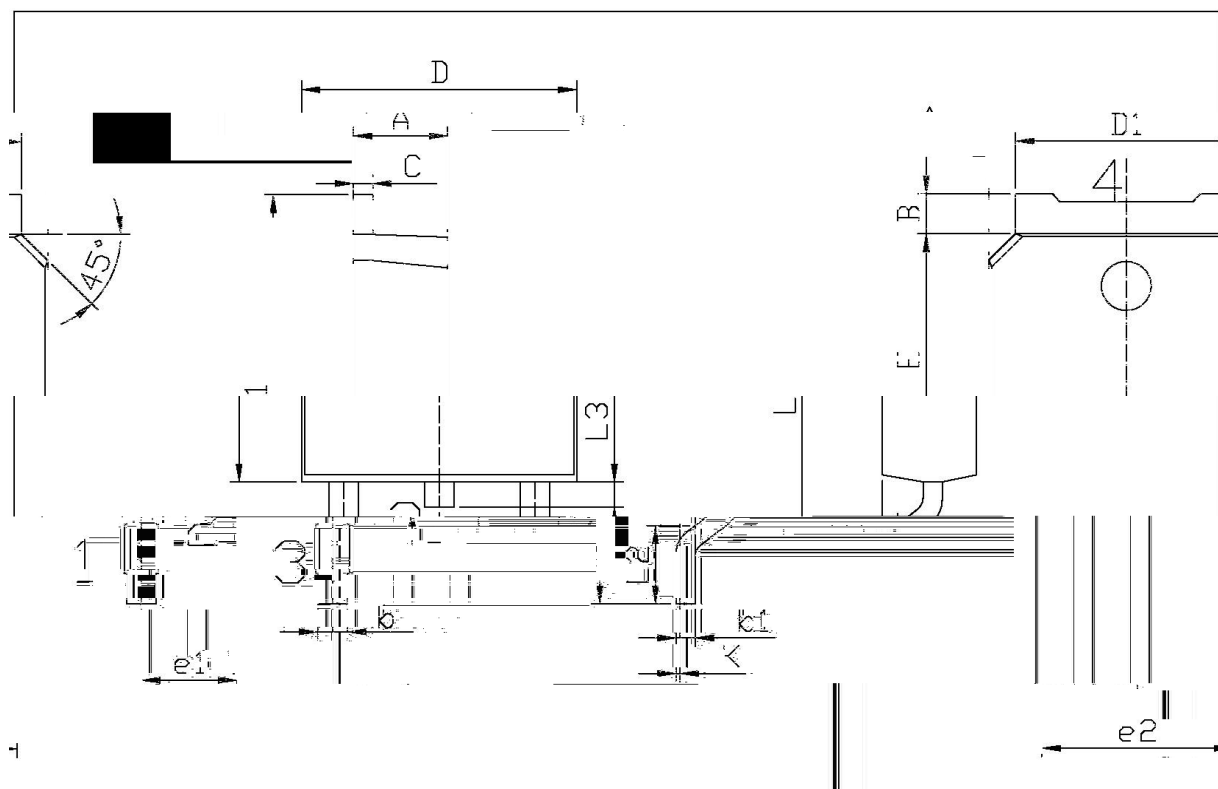
Figure 2: Transfer Characteristics



/ Electrical Characteristic Curve



/ Package Dimensions

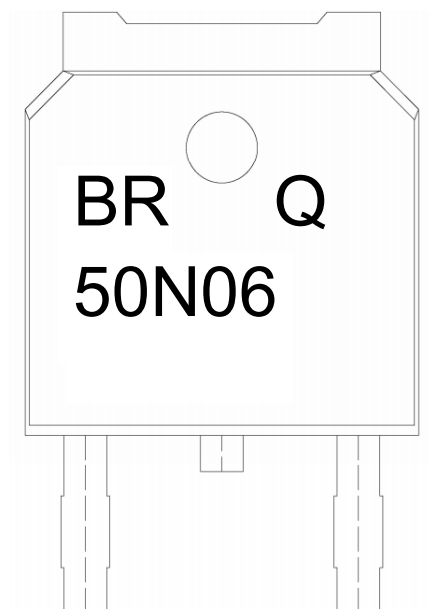


单位: mm

J. A. Millington		J. A. Millington		J. A. Millington	
Max	Min	Max	Min	Max	Min
6.25	2.34	2.20	0.95	2.40	1.25
10.35	1.70	2.00	0.45	0.45	0.55
6.45	6.75	1.35	0.60	0.90	
0.00	0.00	0.00	0.00	0.00	0.00

TI-252

/ Marking Instructions



说明：

BR： 为公司代码

Q： 为汽车无卤产品标识

50N06： 为型号代码

****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

Q: Automobile halogen-free product Code

50N06: Product Type Code

****: Lot No. Code, code change with Lot No

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

- 温
- Note:
- 1 , 时间 150 200 60 120sec; 1.Preheating:150~200℃, Time:60~120sec.
- 2 间 255±5 5±0.5sec; 2.Peak Temp.:255±5℃, Duration:5±0.5sec.
- 3 2 10℃/sec. 3. Cooling Speed: 2~10℃/sec.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 卷盘	卷盘 盒	盘 只 盒	盒 箱	只 箱		盒	箱