

/ 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

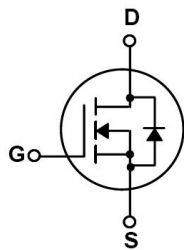
Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, Trench Technologies, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

/ Applications

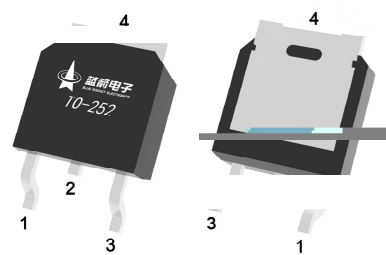
DC/DC

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

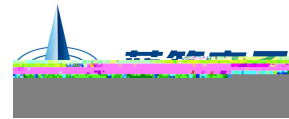
PIN 2 D

PIN 3 S

PIN 4 D

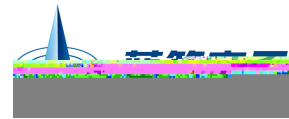
/ Marking

See Marking Instructions.



Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current	$I_D(T_c=25^{\circ}C)$	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	$P_D(T_c=25^{\circ}C)$	60	W
Storage Temperature Range	T_{stg}	-55~150	$^{\circ}C$
Thermal Resistance-Junction to Case	$R_{\theta JC}$	2.1	$^{\circ}C/W$
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

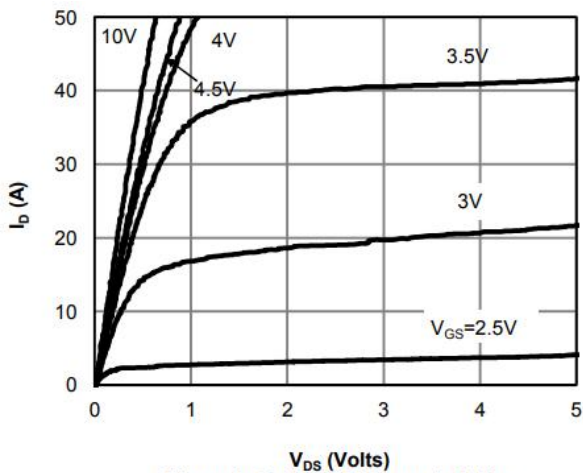


Figure 1: On-Region Characteristics

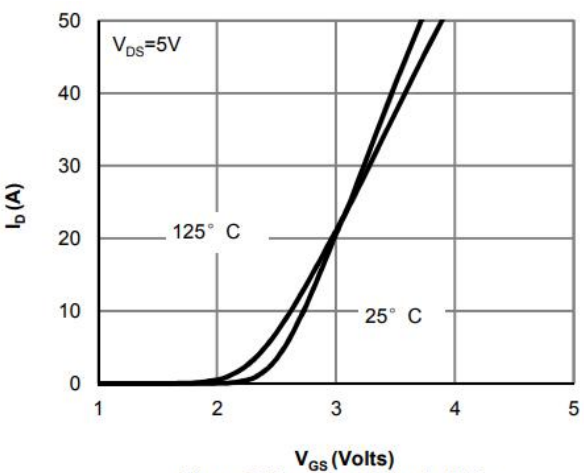
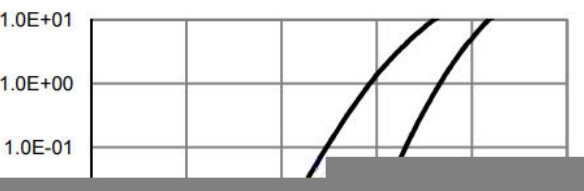
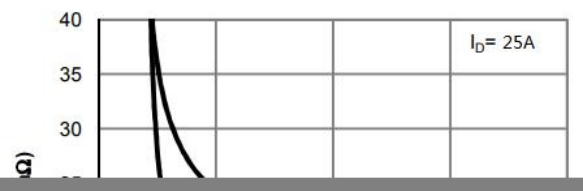
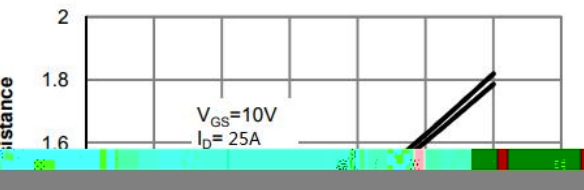
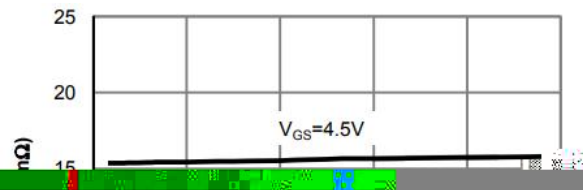
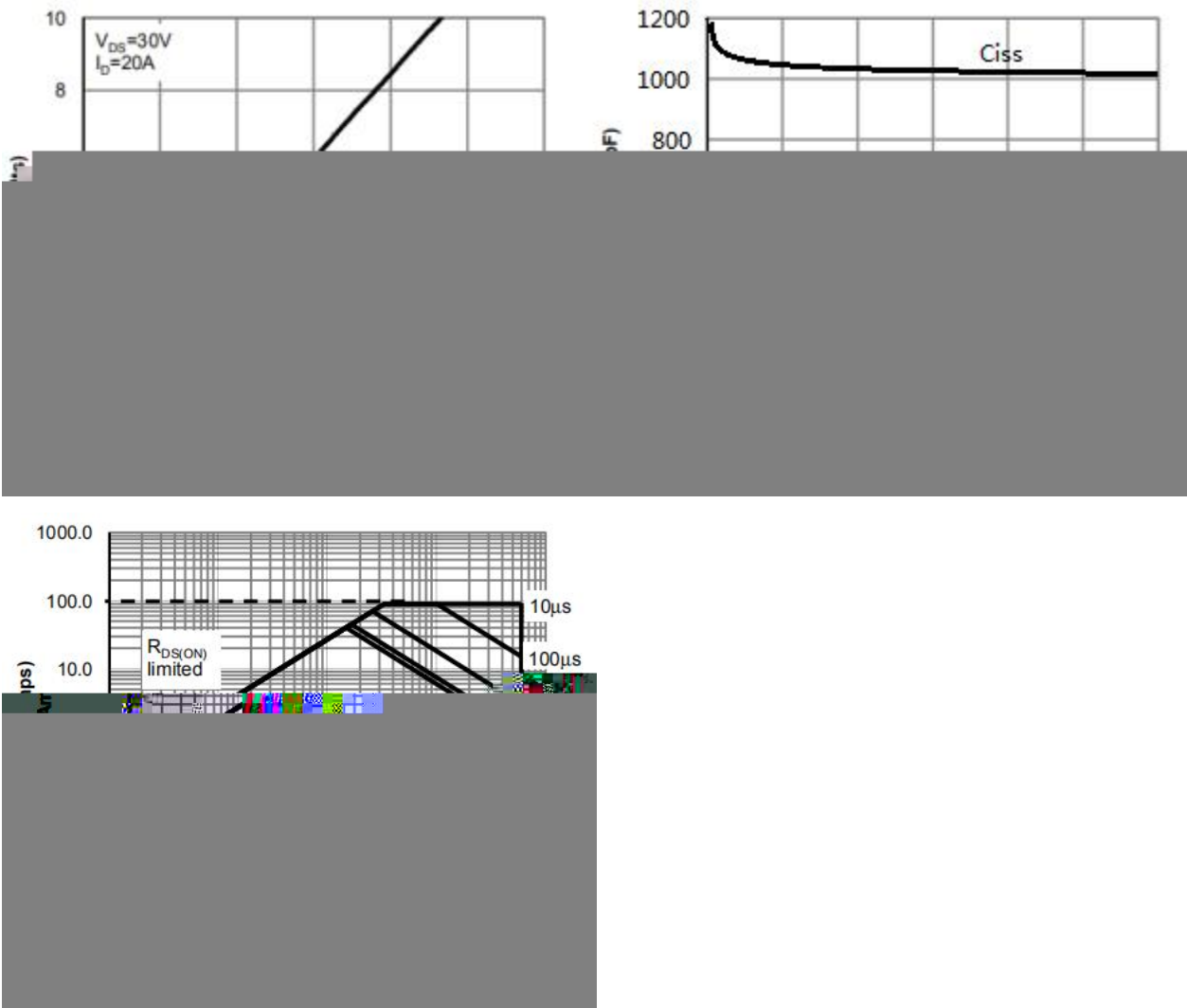


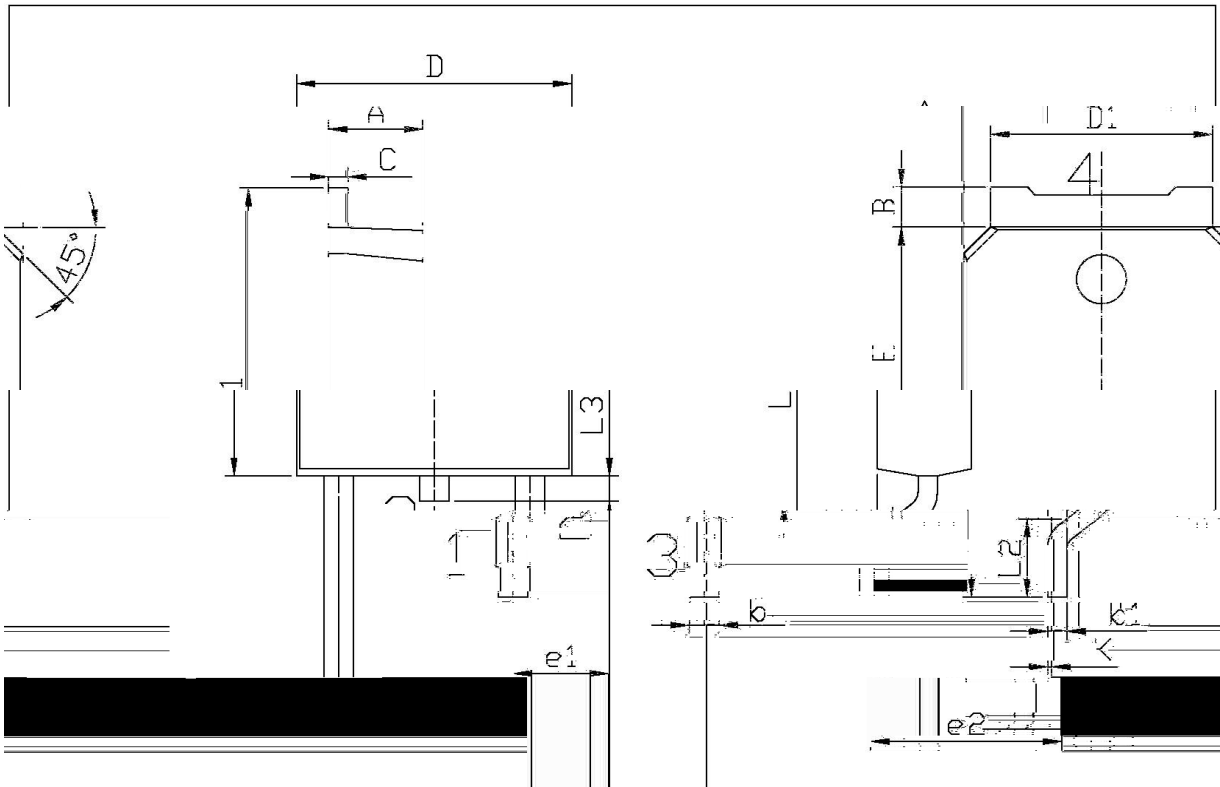
Figure 2: Transfer Characteristics



/ Electrical Characteristic Curve



/ Package Dimensions

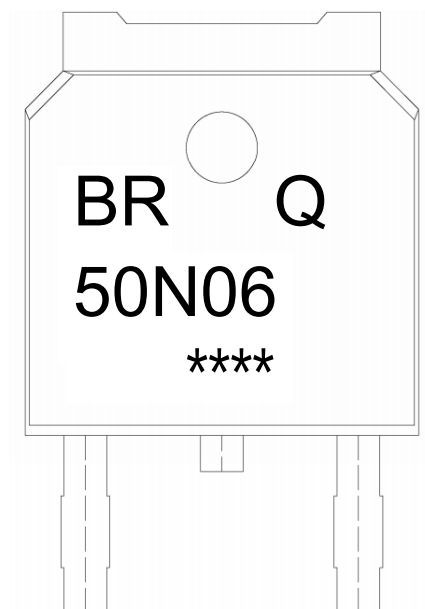


单位: mm

Dimensions In Millimeters	Symbol	Max	Dimensions In Millimeters	Symbol	Max
6.75	L2	1.70	2.00	L1	0.45
0.25	L3	0.60	0.90	D	6.45
0.25		0.25	0.25	A	0.45
0.25		0.25	0.25	B	0.45
0.25		0.25	0.25	C	0.45
0.25		0.25	0.25	D1	0.45
0.25		0.25	0.25	E	0.45
0.25		0.25	0.25	L	0.45
0.25		0.25	0.25	L1	0.45
0.25		0.25	0.25	L2	0.45
0.25		0.25	0.25	L3	0.45
0.25		0.25	0.25	e1	0.45
0.25		0.25	0.25	e2	0.45
0.25		0.25	0.25	k	0.45
0.25		0.25	0.25	k1	0.45

TP-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

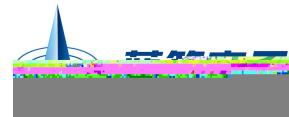
Note:

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)

Note:

- | | | | |
|---|-------------|------------|--|
| 1 | 150 200 | 60 120sec; | 1.Preheating:150~200°C, Time:60~120sec. |
| 2 | 255±5 | 5±0.5sec; | 2.Peak Temp.:255±5°C, Duration:5±0.5sec. |
| 3 | 2 10°C/sec. | | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5°C

10±1 sec.

Temp.:260±5°C

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)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
TO-252	2,500	2	5,000					