



A	2022.07.07	ALL	AOS-AOD240		

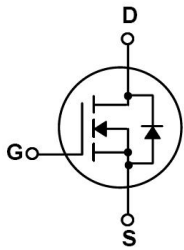


TO-252 N
N-CHANNEL MOSFET in a TO-252 Plastic Package.

$R_{DS(on)}$ C_{rss}
Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, HF Product.

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.



PIN1 G PIN 2 D PIN 3 S PIN 4 D

See Marking Instructions.



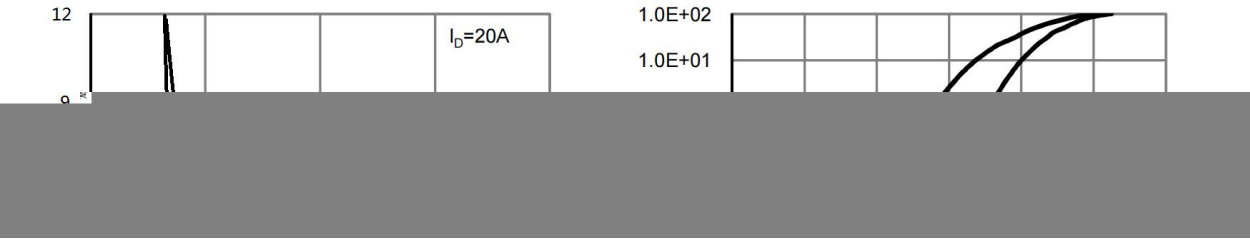
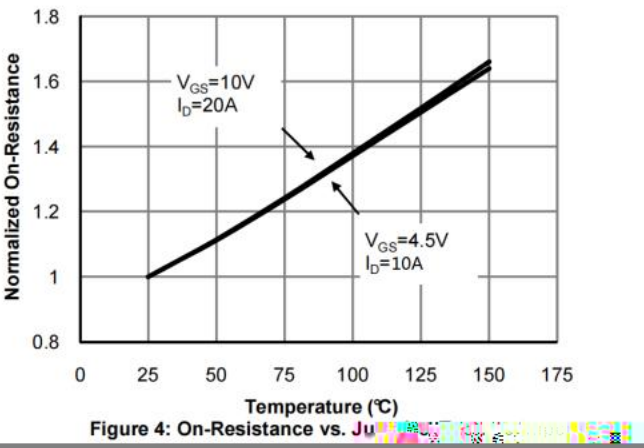
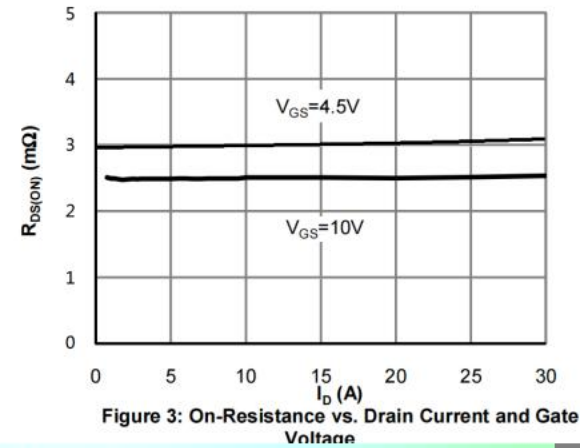
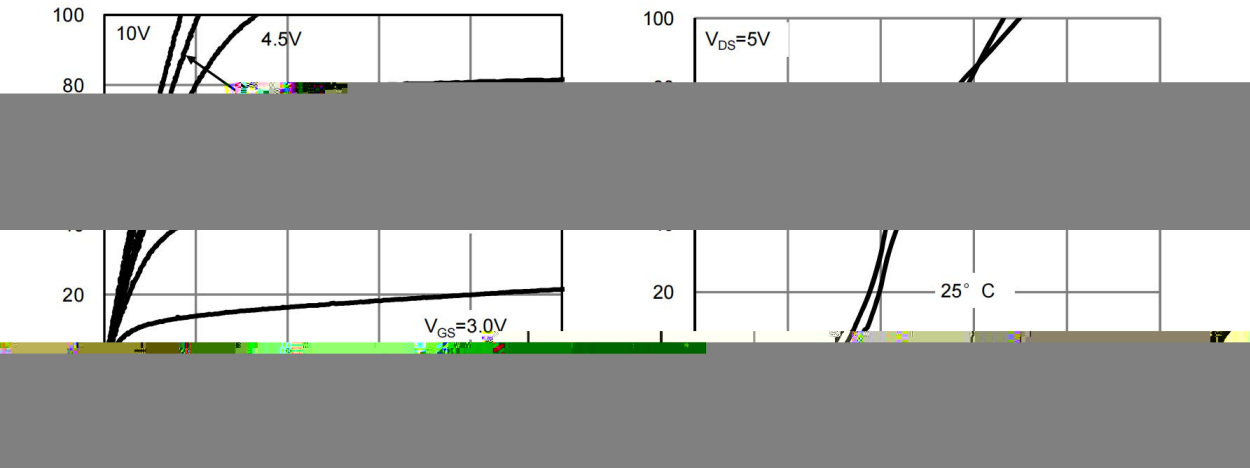
参数 Parameter		符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		$I_D(T_c=25^{\circ}\text{C})$	164	A
Drain Current - Pulsed		I_{DM}	328	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	33.2	A
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	880	mJ
Power Dissipation		$P_D(T_c=25^{\circ}\text{C})$	125	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	17	$^{\circ}\text{C/W}$
	Steady-State		47	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	1	

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40\text{V}$ $V_{GS}=0\text{V}$			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	1.0	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		2.5	2.8	m Ω
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		3.1	3.5	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V
Gate resistance	R_g	$V_{GS}=0\text{V}$ $V_{DS}=0\text{V}$, $f=1\text{MHz}$		2		Ω
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		10850		pF
Output Capacitance	C_{oss}			830		
Reverse Transfer Capacitance	C_{rss}			750		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10\text{V}$, $V_{DS}=20\text{V}$, $I_D=20\text{A}$		50		nC
Total Gate Charge	$Q_{g(4.5V)}$			23		
Gate Source Charge	Q_{gs}			9		
Gate Drain Charge	Q_{gd}			6		

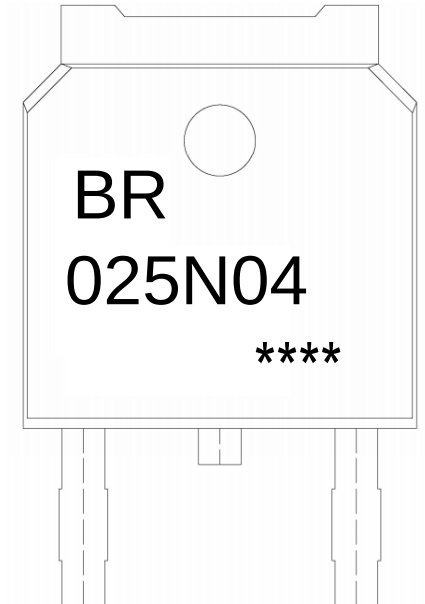


Rev.A Jul.-2022

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_L=1\ \Omega$ $R_{GEN}=3\ \Omega$		11		ns
Turn-On Rise Time	t_r			11		
Turn-Off Delay Time	$t_{d(off)}$			40		
Turn-Off Fall Time	t_f			10		







说明：

BR： 为公司代码

025N04： 为型号代码

****： 为生产批号代码，随生产批号变化

Note:

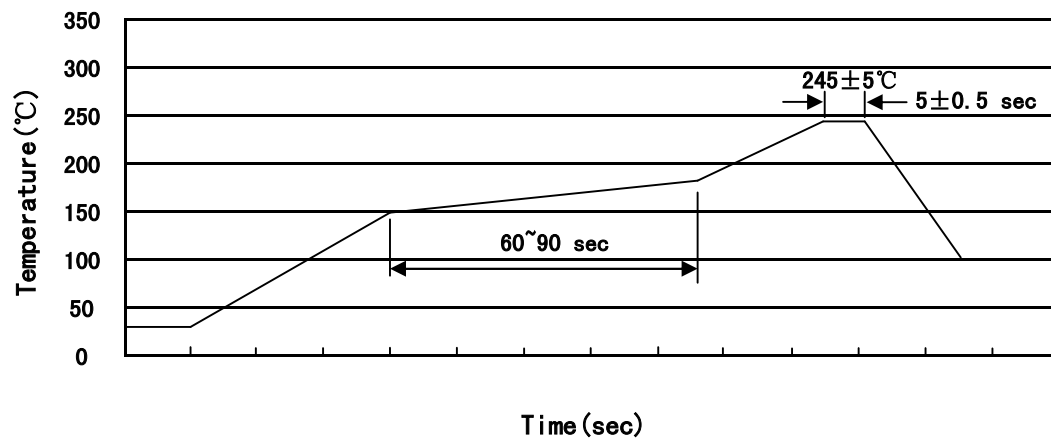
BR: Company Code

025N04: Product Type Code

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



Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

260±5°C

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (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	Outer Box
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180