

/ Revised record

A	2020.08.04		AOS-AON2405		
B	2021-8-23	8	3000 4000		
C	2022-3-7	2	特征栏 $I_D = -8A$ 改为 $I_D = -7A$; I_{GSS} $V_{GS}=\pm 20V$ $V_{GS}=\pm 12V$		

/ Descriptions

DFN2×2B-6L P MOS
P-Channel Enhancement Mode Field Effect Transistor in a DFN2×2B-6L Plastic Package.

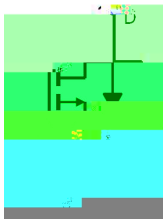
/ Features

$V_{DS} (V) = -20V$ $I_D = -7A$
 $R_{DS(ON)}@-4.5V \leq 30m\Omega$
。 HF Product.

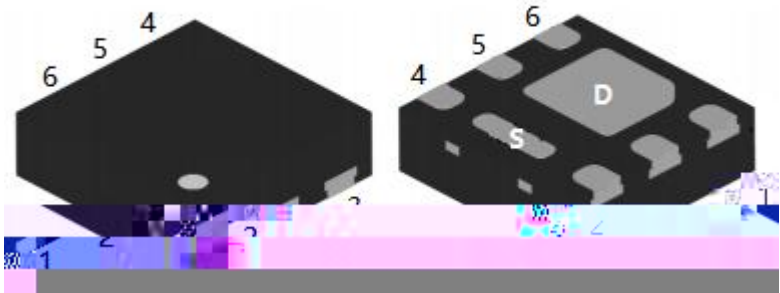
/ Applications

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

/ Equivalent Circuit



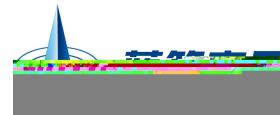
/ Pinning



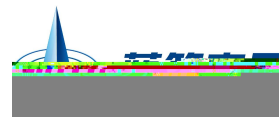
出脚	定义
Pin1	D
Pin2	D
Pin3	G
Pin4	S
Pin5	D
Pin6	D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-20	V
Gate-Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current	$I_{\text{D}} (T_a=25^\circ\text{C})$	-7	A
Continuous Drain Current	$I_{\text{D}} (T_a=70^\circ\text{C})$	-5	A
Pulsed Drain Current	I_{DM}	-28	A
Avalanche Current	I_{AS}	21	A
Avalanche energy $L=0.5\text{mH}$	E_{AS}	308	mJ
Power Dissipation for Single Operation	$P_{\text{D}} (T_a=25^\circ\text{C})$	2.8	W
Maximum Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta\text{JA}} \quad t \leq 10\text{s}$	45	$^\circ\text{C/W}$
Thermal Resistance-Junction to Ambient	$R_{\theta\text{JA}}$	80	$^\circ\text{C/W}$



/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = -250\mu A$ $V_{GS} = 0V$	-20	-23		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -20V$ $V_{GS} = 0V$			-1.0	μA
		$V_{DS} = -20V$ $V_{GS} = 0V$ $T_J = 55^\circ C$			-5.0	
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V$ $V_{GS} = \pm 12V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ $I_D = -250\mu A$	-0.4	-0.7	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -10V$ $I_D = -3.5A$		23.7	30	m Ω
		$V_{GS} = -4.5V$ $I_D = -2.8A$		30.4	40	
		$V_{GS} = -2.5V$ $I_D = -2.0A$		43.6	50	
Forward Transconductance	g_{FS}	$V_{DS} = -4.5V$ $I_D = -3.5A$		8.8		S
Diode Forward Voltage	V_{SD}	$I_S = -1A$ $V_{GS} = 0V$		0.75		V
Total Gate Charge	Q_g	$V_{GS} = -4.5V$ $V_{DS} = -10V$ $I_D = -8A$		13		nC
Gate-Source Charge	Q_{gs}			2		
Gate-Drain Charge	Q_{gd}			3.4		
Input Capacitance	C_{iss}	$V_{GS} = 0V$ $V_{DS} = -25V$ $f = 1MHz$		1050		pF
Output Capacitance	C_{oss}			155		
Reverse Transfer Capacitance	C_{rss}			125		
Turn-on Delay Time	$t_{d(ON)}$	$V_{GS} = -4.5V$ $V_{DS} = -10V$ $R_L = 1.25\Omega$ $R_{GEN} = 3\Omega$		7		ns
Turn-on Rise Time	t_r			28		
Turn-off Delay Time	$t_{d(OFF)}$			95		
Turn-off Fall Time	t_f			46		

/ Electrical Characteristic Curve

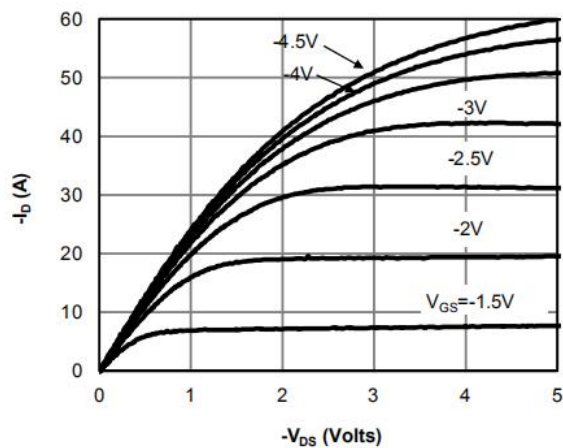


Fig 1: On-Region Characteristics

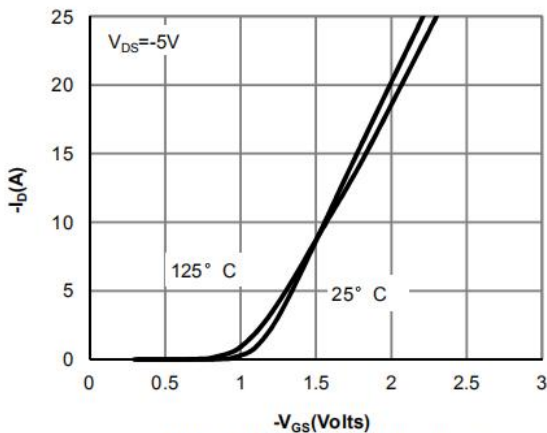
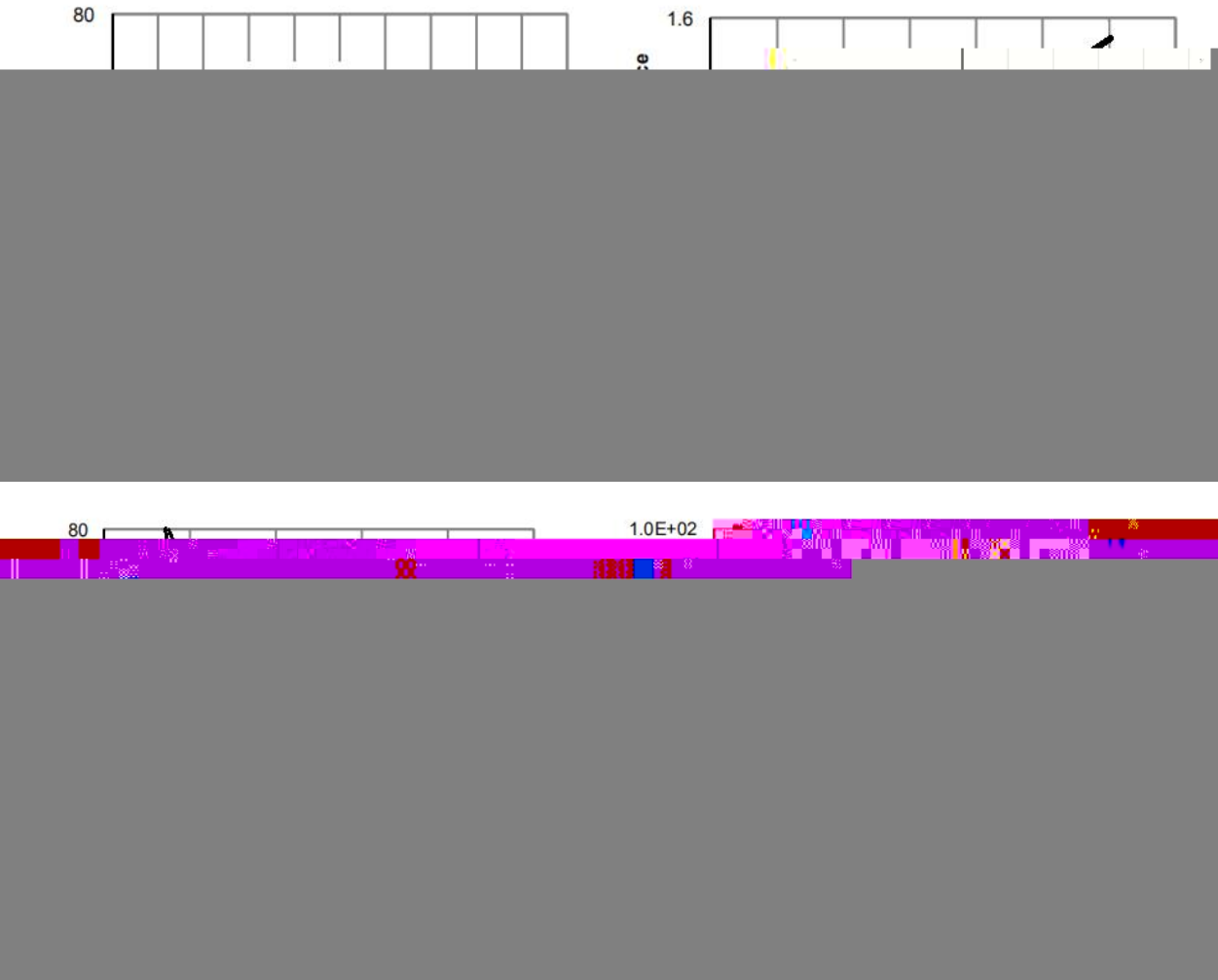
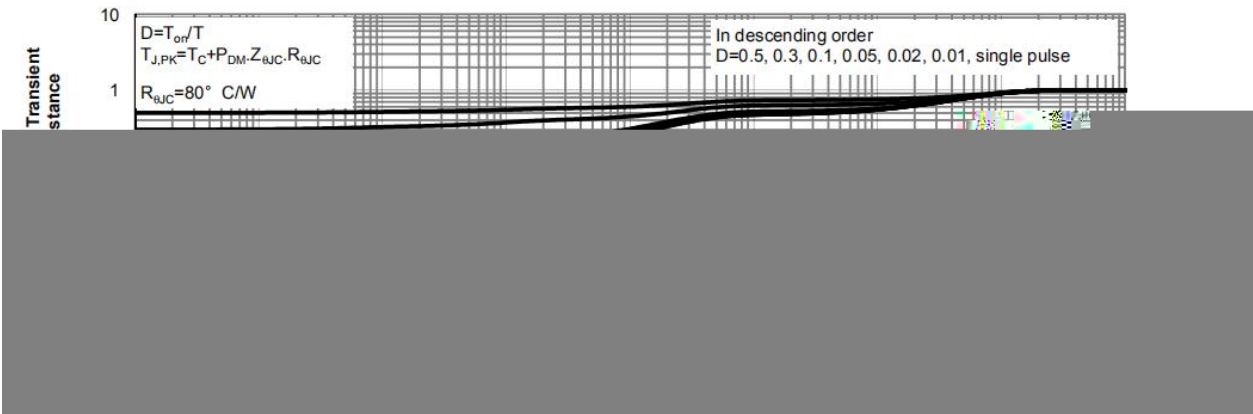
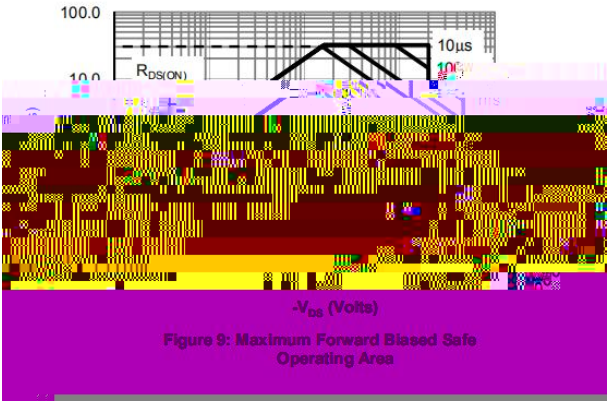
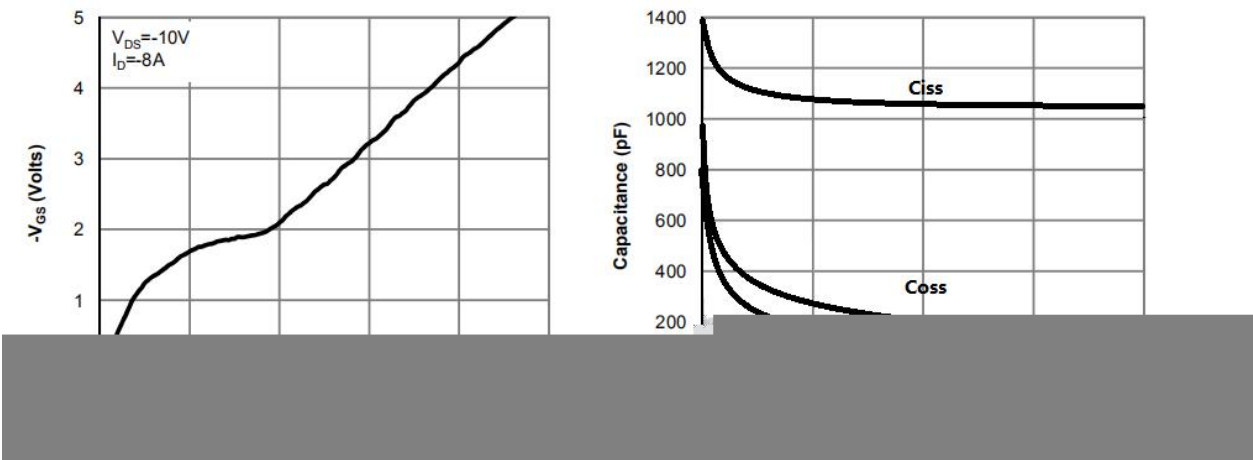
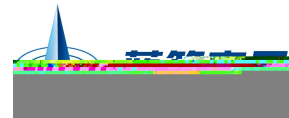


Figure 2: Transfer Characteristics



/ Electrical Characteristic Curve

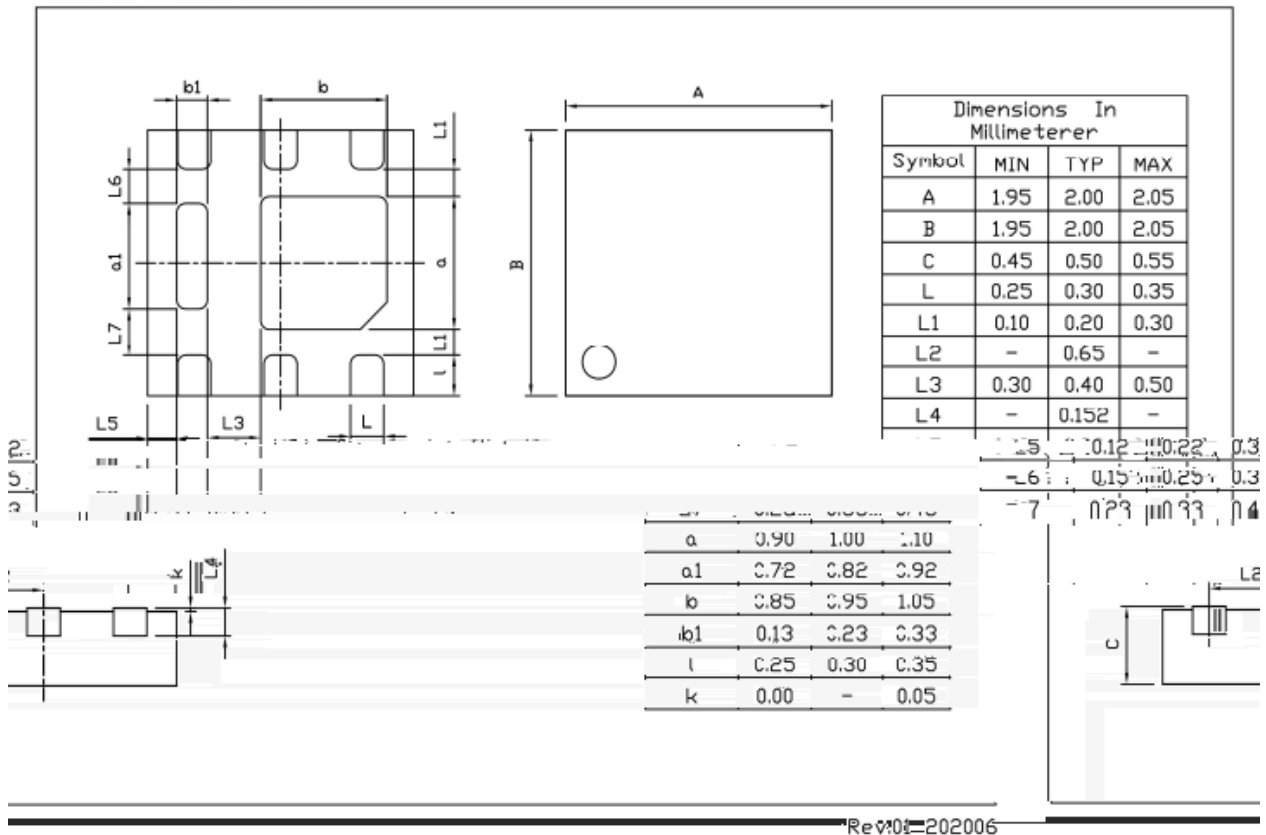


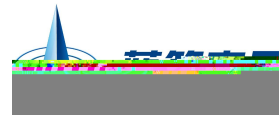


/ Package Dimensions

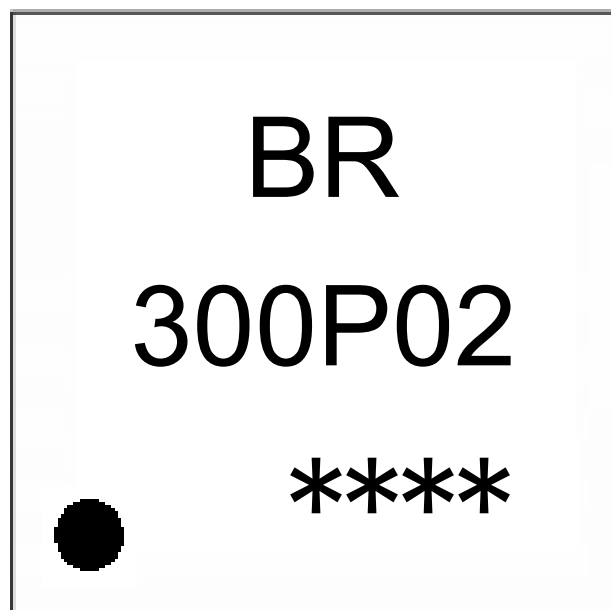
DFN2×2B-6L-0.5

Unit:mm





/ Marking Instructions



BR

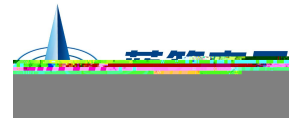
300P02

Note:

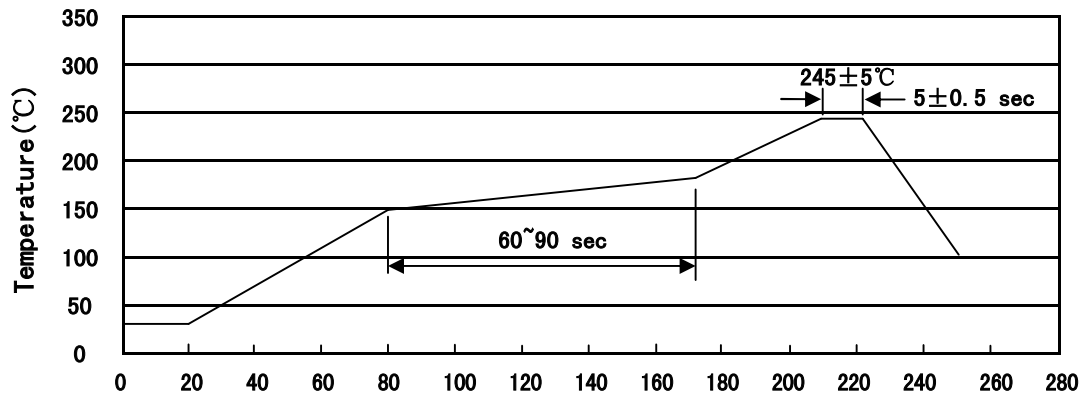
BR: Company Code

300P02: Product Type

****: 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. |

/ 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 /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box 盒	Outer Box 箱
DFN2 × 2B-6L	4,000	10	40,000	4	160,000	7" × 8	210×205×205	445×230×435

/ Notices