

/ Descriptions

Dual P-Channel MOSFET in a SOP-8 Plastic Package.

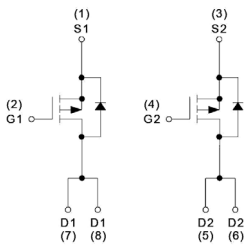
/ Features

Super high dense cell design for low $R_{DS(ON)}$, Rugged and reliable. HF Product.

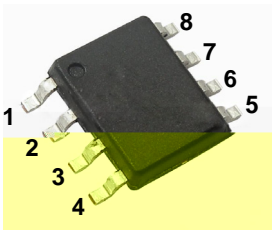
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN 1	S1	PIN 2	G1	PIN 3	S2	PIN 4	G2
PIN 5	D2	PIN 6	D2	PIN 7	D1	PIN 8	D1

/ Marking

Marking	4953D
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/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-20	V
Gate-Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current	I_D^*	-3.0	A
Pulsed Drain Current	I_{DM}^*	-12	A
Diode Continuous Forward Current	I_S^*	-2.0	A
Power Dissipation for Single Operation	$P_D^*(Ta=25^\circ C)$	2	W
Power Dissipation for Single Operation	$P_D^*(Ta=100^\circ C)$	0.8	W
Maximum Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 150	$^\circ C$
Thermal Resistance-Junction to Ambient	R_{JA}^*	62.5	$^\circ C/W$

Note:

* Surface Mounted on 1in2 pad area, t 10sec.

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_{DS}=-250\mu A$	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-16V$ $V_{GS}=0V$			-1	μA
		$V_{DS}=-16V$ $V_{GS}=0V$ $T_j=85^\circ C$			-10	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_{DS}=-250\mu A$	-0.50	-0.8	-1.0	V
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			± 100	nA
Drain-Source On-state Resistance	$R_{DS(ON)}^a$	$V_{GS}=-10V$ $I_{DS}=-2.7A$		85	97	m
		$V_{GS}=-4.5V$ $I_{DS}=-2.7A$		82	110	
		$V_{GS}=-2.5V$ $I_{DS}=-2.2A$		130	150	
Diode Forward Voltage	V_{SD}^a	$V_{GS}=0V$ $I_{SD}=-1.0A$		-0.7	-1.3	V
Total Gate Charge	Q_g^b	$V_{DS}=-6V$ $V_{GS}=-4.5V$ $I_{DS}=-2.7A$		5.8	10	nC
Gate-Source Charge	Q_{gs}^b			0.85		nC
Gate-Drain Charge	Q_{gd}^b			1.7		nC

/ Electrical Characteristics(Ta=25)

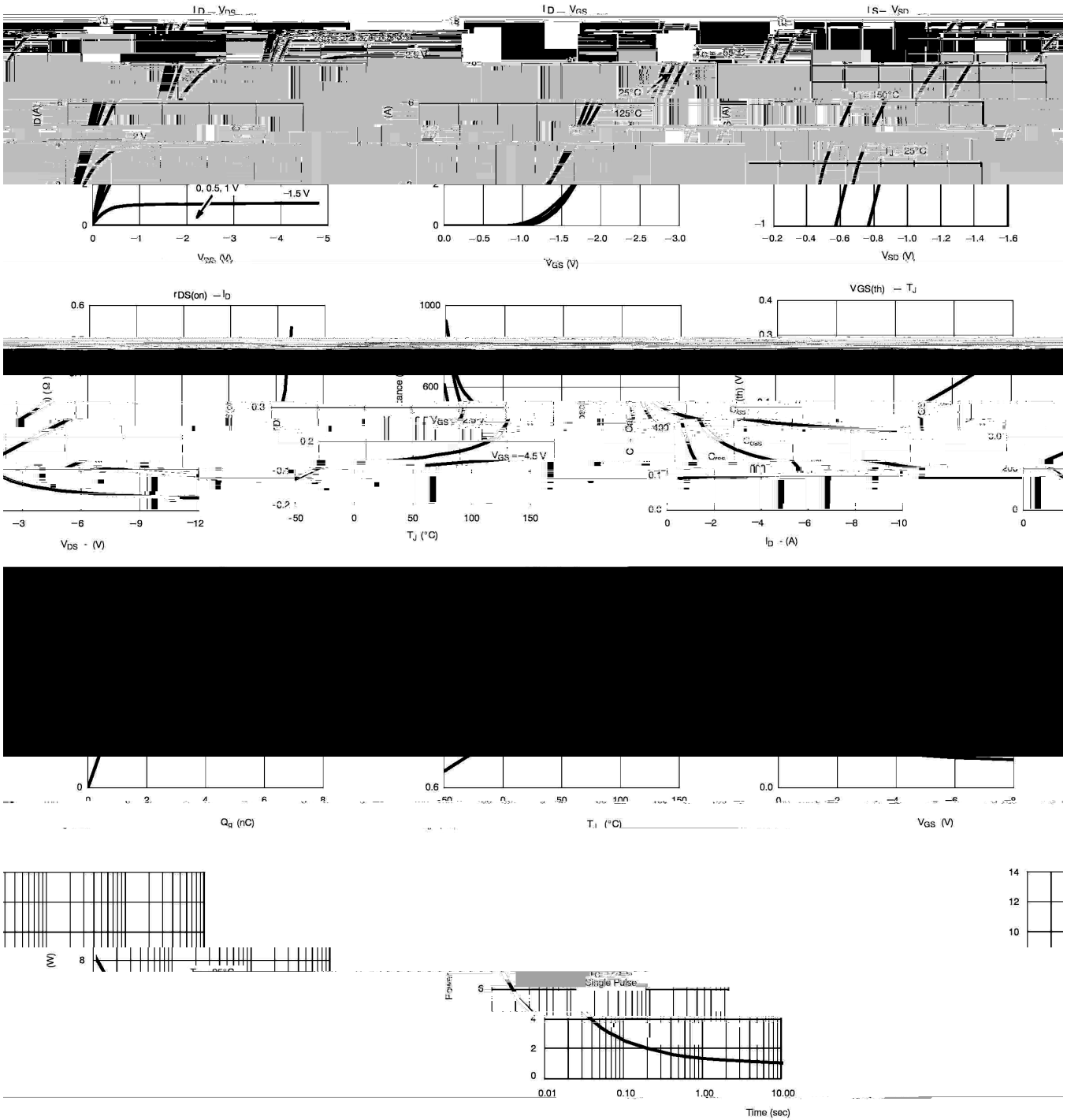
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate Resistance	R_G^b	$V_{GS}=0V$ $V_{DS}=0V$ $F=1MHz$		6		
Input Capacitance	C_{iss}^b	$V_{GS}=0V$ $V_{DS}=-6V$ Frequency=1.0MHz		415		pF
Output Capacitance	C_{oss}^b			223		
Reverse Transfer Capacitance	C_{rss}^b			84		
Turn-on Delay Time	$t_{d(ON)}^b$	$V_{DD}=-6V$ $R_L=6$ $I_{DS}=-1A$ $V_{GEN}=-10V$ $R_G=6$		13	25	ns
Turn-on Rise Time	T_r^b			36	60	
Turn-off Delay Time	$T_{d(OFF)}^b$			42	70	
Turn-off Fall Time	T_f^b			34	60	

Notes:

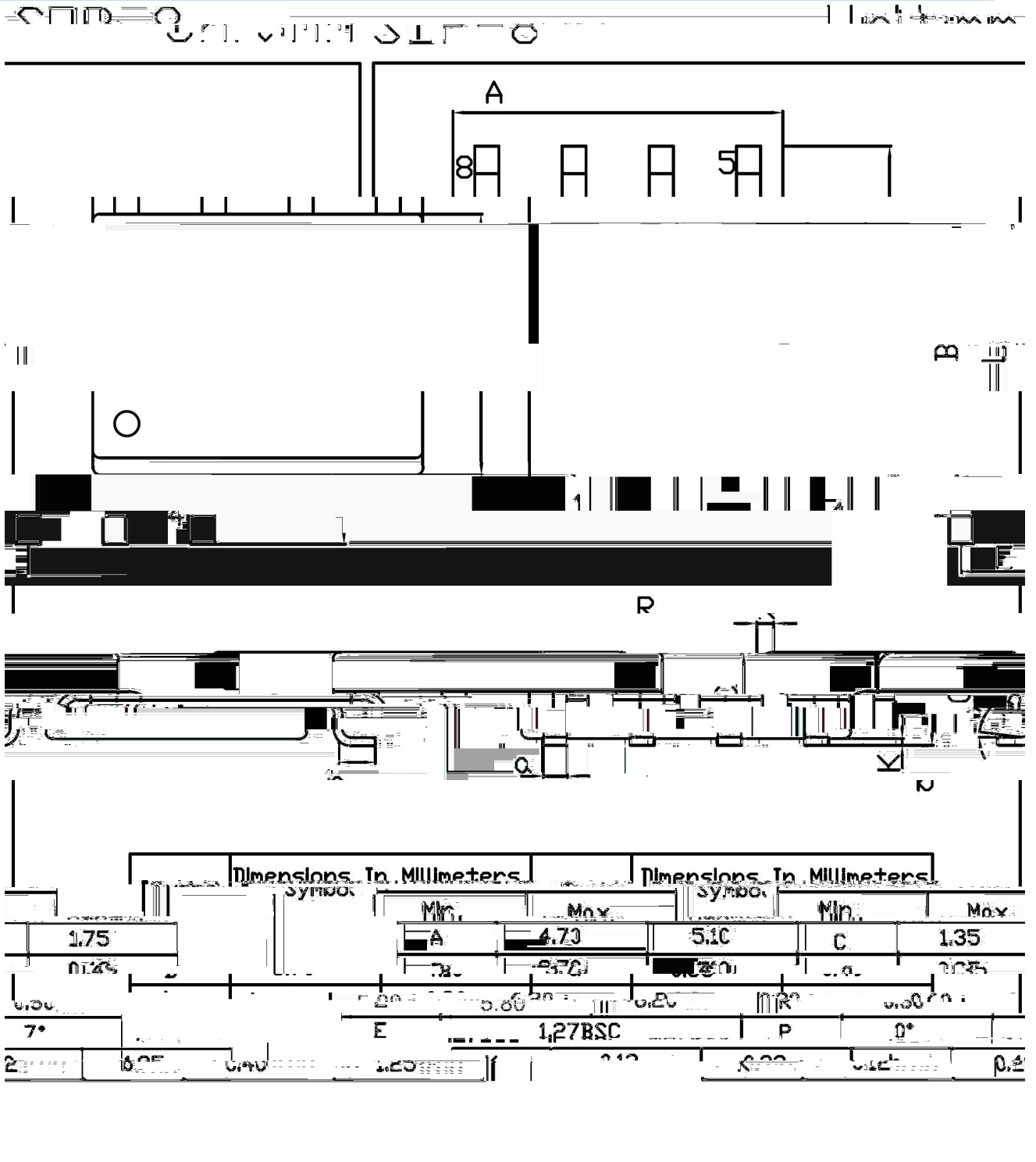
a : Pulse test ; pulse width 300 μ s, duty cycle 2%.

b : Guaranteed by design, not subject to production testing.

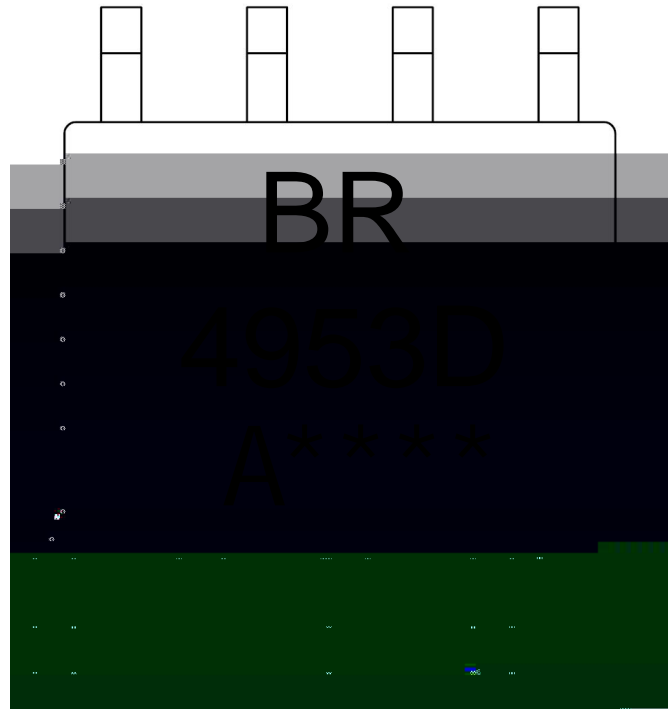
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

4953D

A: , A B C D.....

Note:

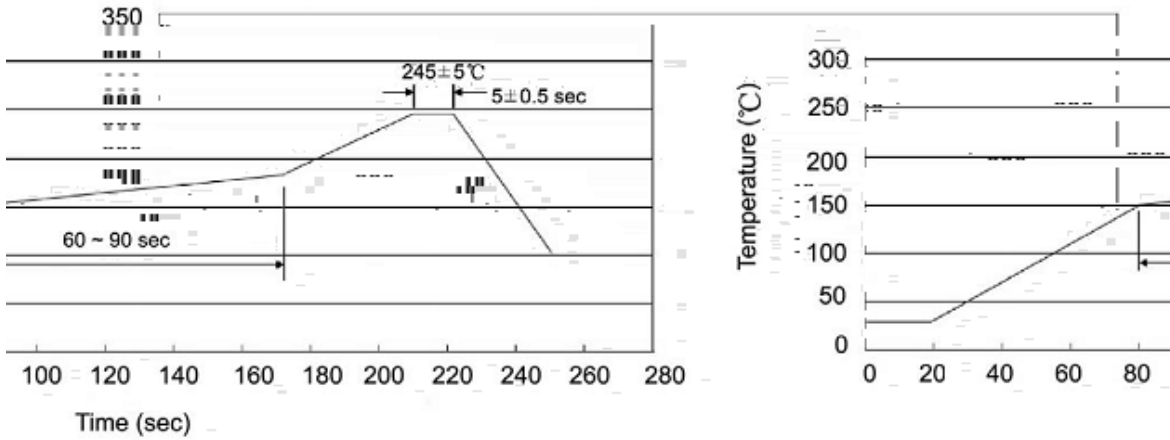
BR: Company Code.

4953D: Product Type

A: Chip sign(Flag bit may be empty,or the letter A B C D.....).

****: 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 , Time:60~90sec. |
| 2 | 245 | 5 | 5 | 0.5sec; | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260 5 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
SOP/ESOP-8	4,000	2	8,000	6	48,000	13" ×12	360×360×50	380×335×366

/ Notices

Different chip sign products can be used to replace ,in order to ensure consistency .We suggest to use the same chip sign products for the same batch.