

Descriptions

This-20V P-Channel MOSFET in a SOT-23-6 Plastic Package.

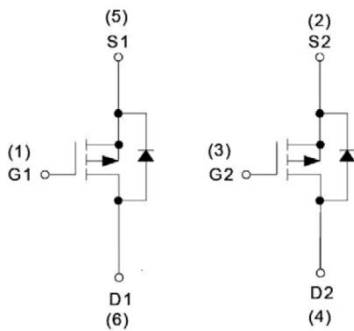
Features

- Super high dense cell design for low $R_{DS(ON)}$,
- Rugged and reliable.
- Halogen-free product.

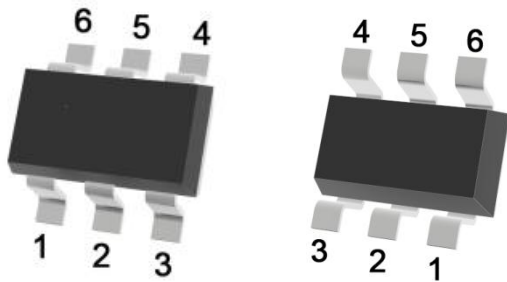
Applications

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

Equivalent Circuit



Pinning



PIN1: G1 PIN 2: S2 PIN 3: G2
PIN 4: D2 PIN 5: S1 PIN 6: D1

Absolute Maximum Ratings(Ta=25°C)

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°C)	1.25	W
Power Dissipation for Single Operation	P _D * (Ta=100°C)	0.5	W
Maximum Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55 ~ 150	°C
Thermal Resistance-Junction to Ambient	R _{θJA} *	70	°C/W

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _{DS} =-250μA	-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°C			-10	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _{DS} =-250μA	-0.50	-0.8	-1.0	V
Gate Leakage Current	I _{GSS}	V _{GS} =±12V V _{DS} =0V			±100	nA
Drain-Source On-state Resistance	R _{DS(ON)} ^a	V _{GS} =-10V I _{DS} =-2.7A		75	97	mΩ
		V _{GS} =-4.5V I _{DS} =-2.7A		88	110	
		V _{GS} =-2.5V I _{DS} =-2.2A		120	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°C)

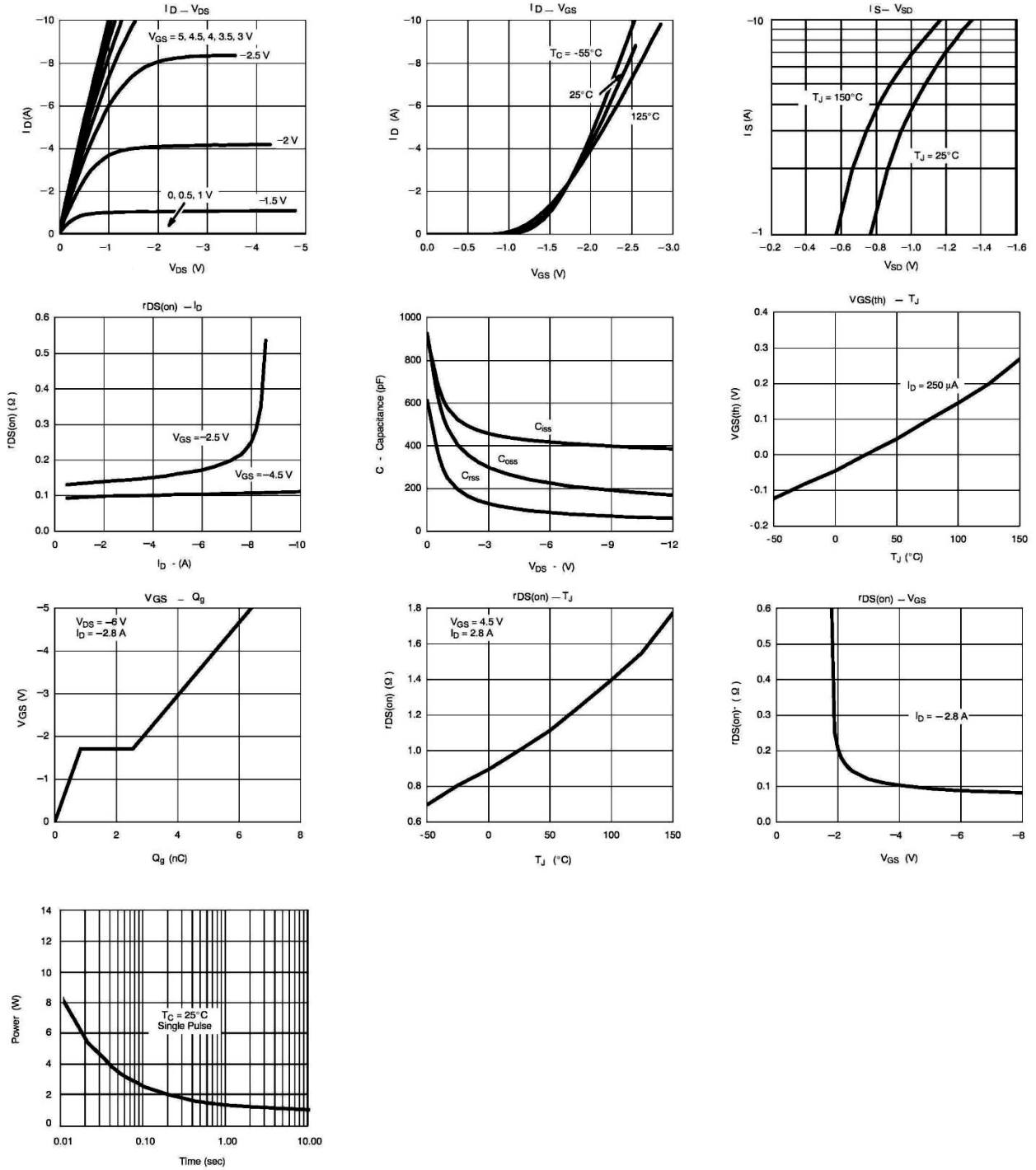
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate Resistance	R_G^b	$V_{GS}=0V$ $V_{DS}=0V$ $F=1MHz$		6		Ω
Input Capacitance	C_{iss}^b	$V_{GS}=0V$ $V_{DS}=-6V$ Frequency=1.0MHz		415		pF
Output Capacitance	C_{oss}^b			223		
Reverse Transfer Capacitance	C_{rss}^b			84		
Turn-on Delay Time	$t_{d(ON)}^b$	$V_{DD}=-6V$ $R_L=6\Omega$ $I_{DS}=-1A$ $V_{GEN}=-10V$ $R_G=6\Omega$		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:

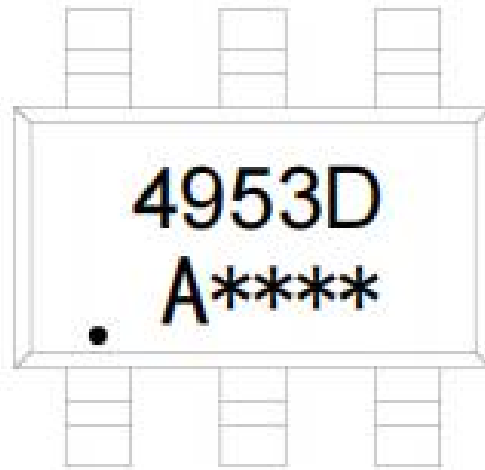
a : Pulse test ; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

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

Electrical Characteristic Curve



Marking Instructions



Note:

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.

Packaging SPEC

REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT23-6	3,000	10	30,000	4	120,000	7" x8	210×205×205	445×230×435

Package Outline Dimensions

