Description

This -20V -3A Dual P-Channel Power Trench MOSFET in a SOP-8 Plastic Package.

Applications

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

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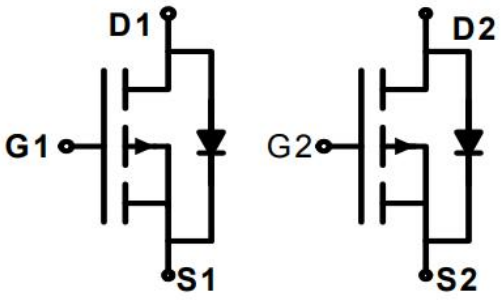
Features

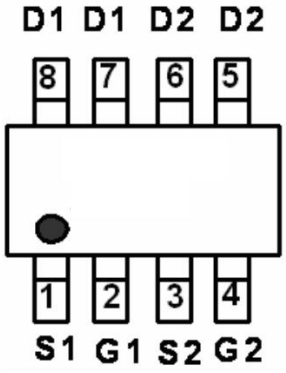
- Super high dense cell design for low $R_{DS(ON)}$
- Rugged and reliable
- Halogen-free Product

V_{DSS}	$R_{DS(ON)}$ (Typ)	I_D
-20V	85mΩ	-3A

Equivalent Circuit & Pinning



Schematic diagram



Pin Assignment

SOP-8 top view

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℃)	2	W
Power Dissipation for Single Operation	P_D* (Ta=100℃)	0.8	W
Maximum Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$*	62.5	℃/W

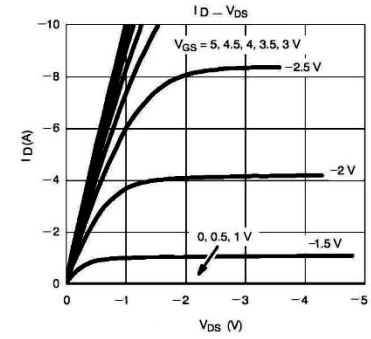
Note:

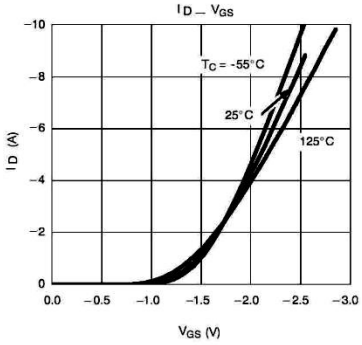
* Surface Mounted on 1in2 pad area, t ≤ 10sec.

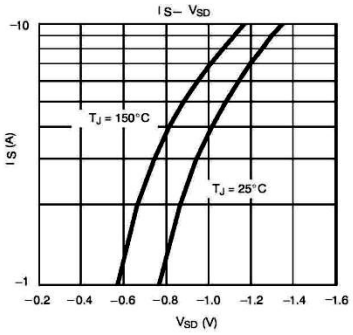
Electrical Characteristics(Ta=25℃)

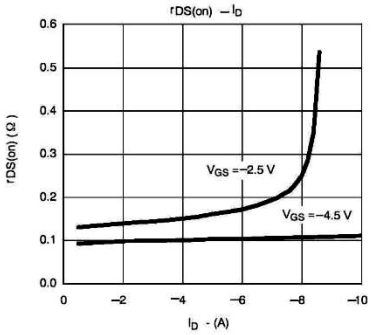
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_{DS}=-250μA	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V V_{GS}=0V			-1	μA
		V_{DS}=-16V V_{GS}=0V T_J=85°C			-10	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS I_{DS}=250μA	-0.50	-0.8	-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		85	97	mΩ
		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
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=6Ω I_{DS}=-1A V_{GEN}=-10V R_G=6Ω		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	

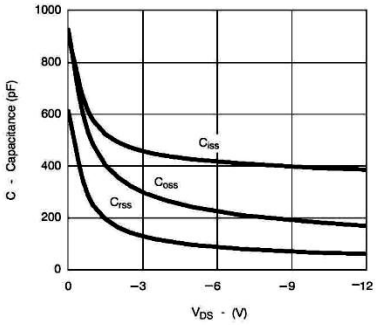
Electrical Characteristic Curve

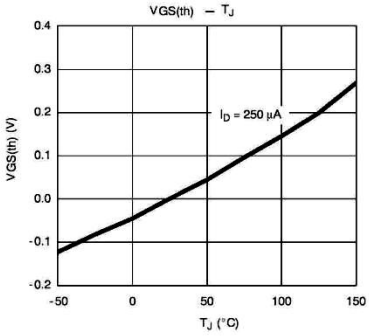


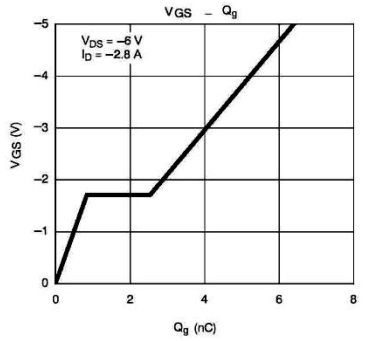


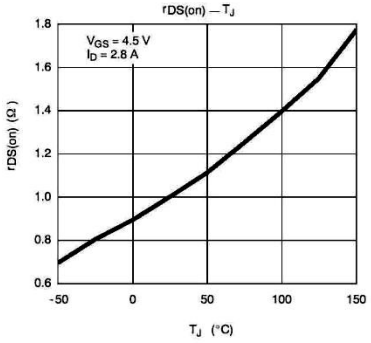


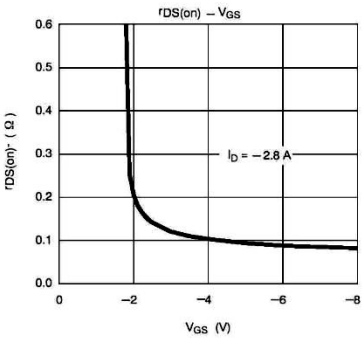


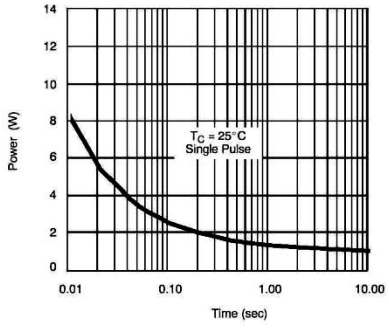




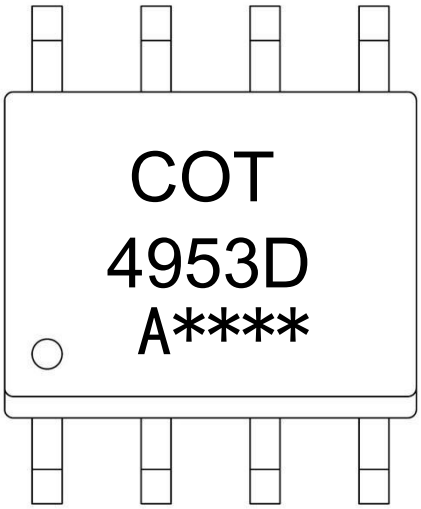








Marking Instructions



Note:

COT:	Company Logo
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.

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.

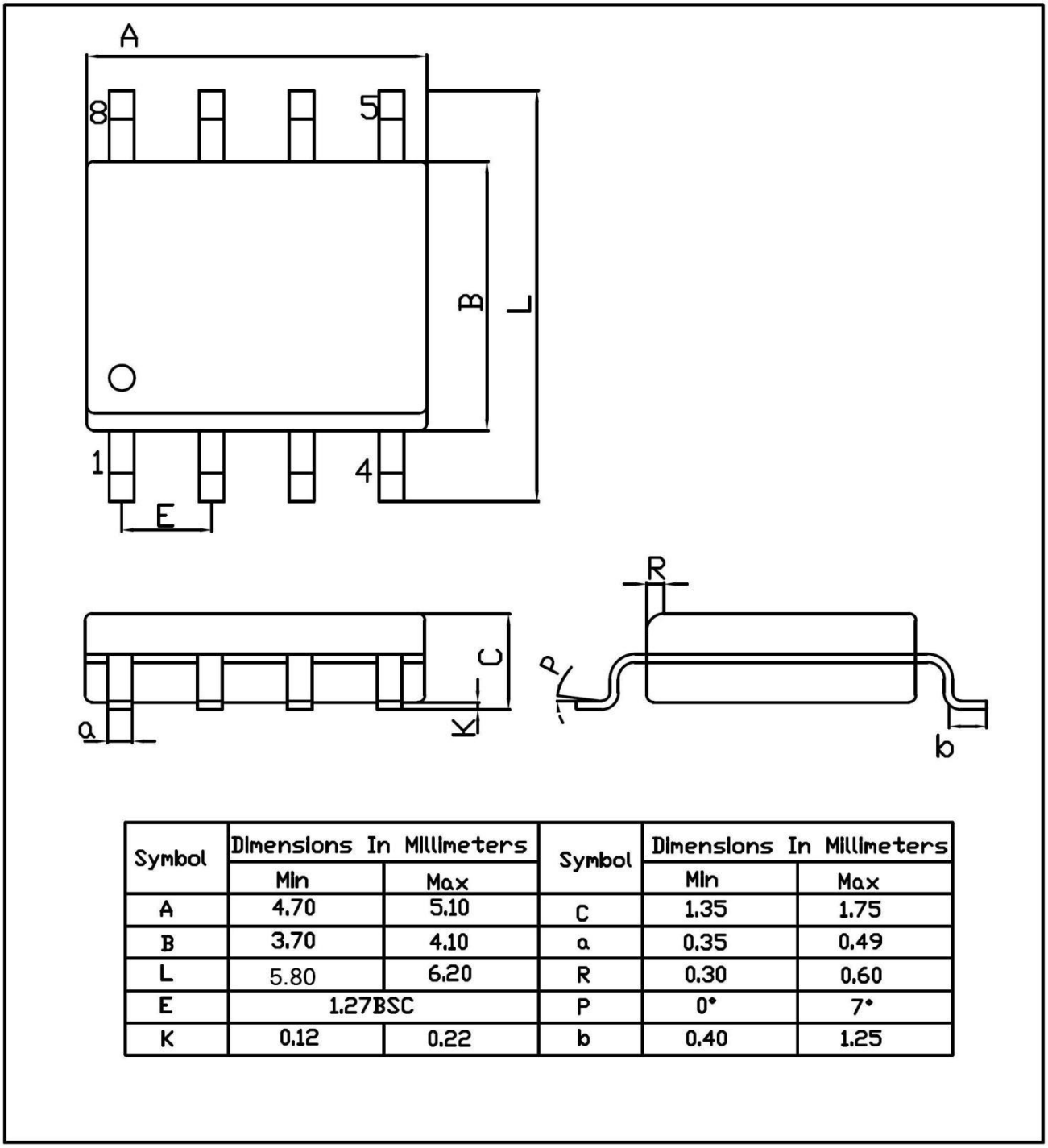
Packaging SPEC.

REEL INFORMATION

Package Type	Units					Dimension (unit：mm³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOP-8	4,000	2	8,000	6	48,000	13″ ×12	360×360×50	380×335×366

Package Outline Dimensions

SOP-8 Unit:mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.70	5.10	C	1.35	1.75
B	3.70	4.10	a	0.35	0.49
L	5.80	6.20	R	0.30	0.60
E	1.27BSC		P	0°	7°
K	0.12	0.22	b	0.40	1.25