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TPM1001PS3

100V P-Channel Enhancement Mode MOSFET

www.sot23.com.tw

Product Summary

BVDSS	RDSON	ID
-100V	750mΩ	-1 A

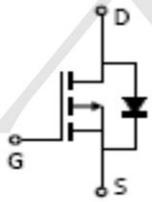
Application

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

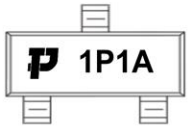
Package and Pin Configuration

SOT-23

Circuit diagram



Marking:



"P" is TECHPUBLIC LOGO

Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	-100	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current (Note 4)	T_A=25°C	I_D	-1	A
	T_A=70°C		-0.75	
Pulsed Drain Current (Note 1)		I_{DM}	-3.6	
Power Dissipation	T_A=25°C	P_D	1.25	W
	T_A=70°C		0.8	
Single Pulse Avalanche Energy (Note 6)		E_{AS}	0.2	mJ
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Typical Thermal resistance - Junction to Ambient (Note 4,5)		$R_{\theta JA}$	100	°C/W

Electrical Characteristics (T_J=25 ℃, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=-250uA	-100	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250uA	-1	-2	-2.5	
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-0.9A	-	500	650	mΩ
		V_{GS}=-4.5V, I_D=-0.45A	-	620	750	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-80V, V_{GS}=0V	-	-	-1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Dynamic (Note 7)						
Total Gate Charge	Q_g	V_{DS}=-50V, I_D=-1A, V_{GS}=-10V (Note 2,3)	-	8	-	nC
Gate-Source Charge	Q_{gs}		-	1.8	-	
Gate-Drain Charge	Q_{gd}		-	1.4	-	
Input Capacitance	Ciss	V_{DS}=-15V, V_{GS}=0V, f=1MHZ	-	448	-	pF
Output Capacitance	Coss		-	28	-	
Reverse Transfer Capacitance	Crss		-	21	-	
Turn-On Delay Time	$td_{(on)}$	V_{DS}=-50V, I_D=1A, V_{GS}=-10V, R_G=6.2Ω (Note 2,3)	-	3.7	-	ns
Turn-On Rise Time	tr		-	25	-	
Turn-Off Delay Time	$td_{(off)}$		-	21	-	
Turn-Off Fall Time	tf		-	22	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	-1.5	A
Diode Forward Voltage	V_{SD}	I_S=-1A, V_{GS}=0V	-	-0.82	-1.2	V

Typical Electrical and Thermal Characteristics

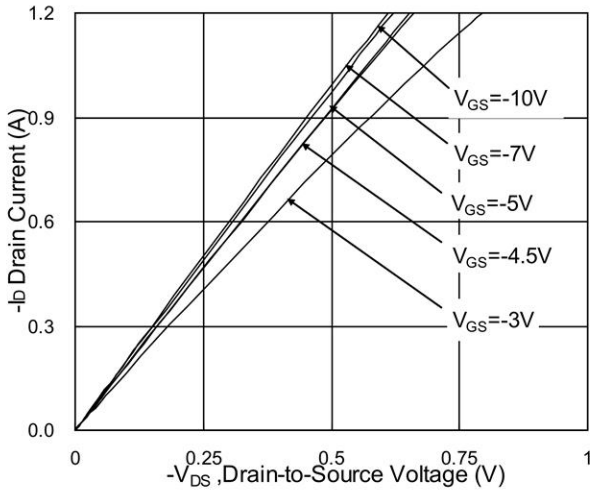


Fig.1 Typical Output Characteristics

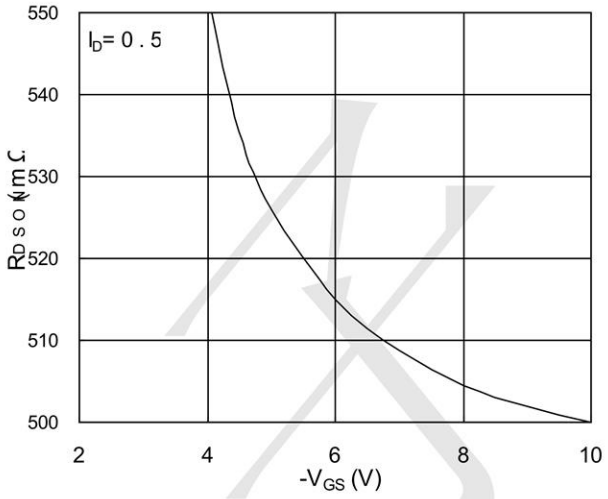


Fig.2 On-Resistance vs. Gate-Source

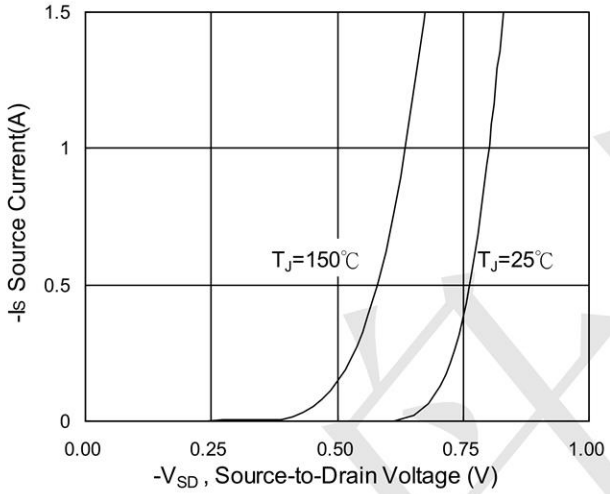


Fig.3 Forward Characteristics Of Reverse

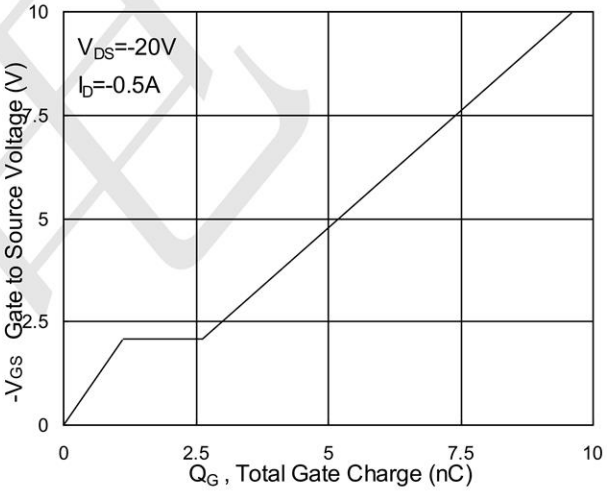


Fig.4 Gate-Charge Characteristics

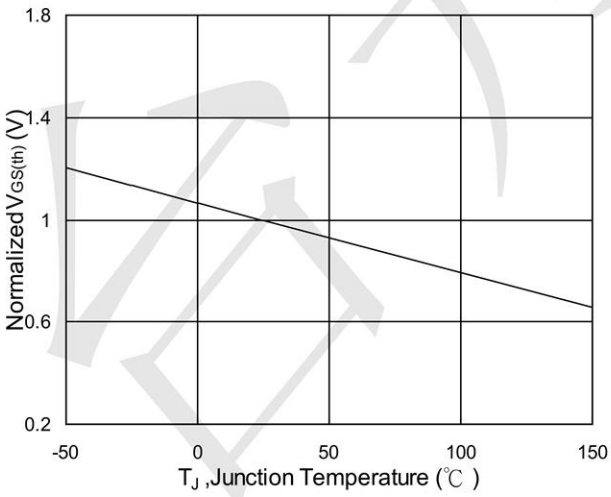


Fig.5 Normalized $V_{GS(th)}$ vs. T_J

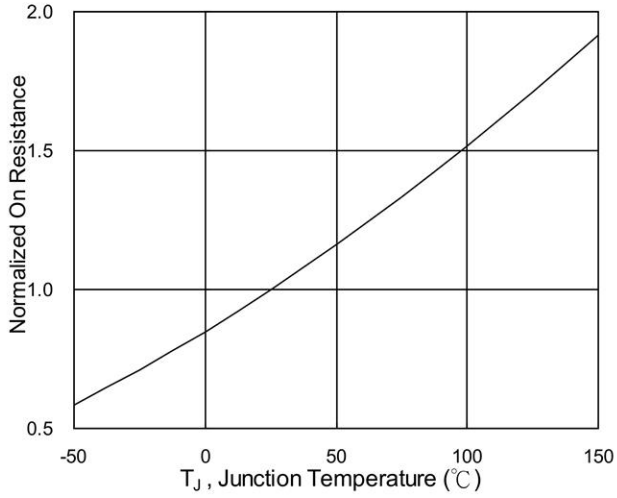


Fig.6 Normalized R_{DSON} vs. T_J

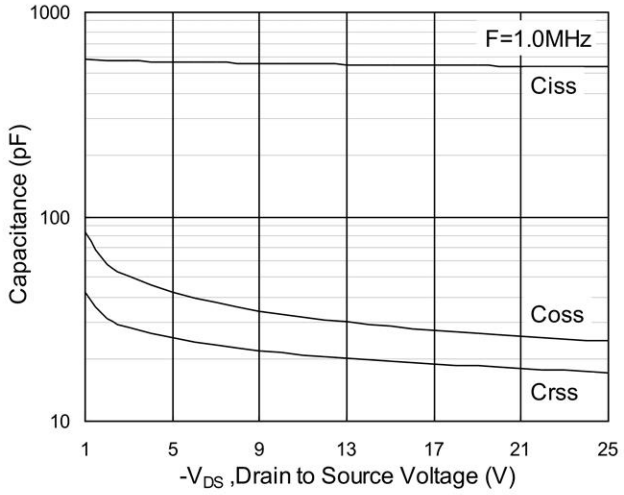


Fig.7 Capacitance

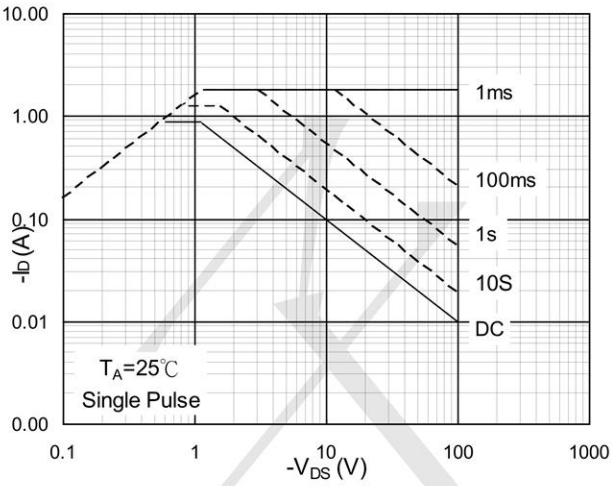


Fig.8 Safe Operating Area

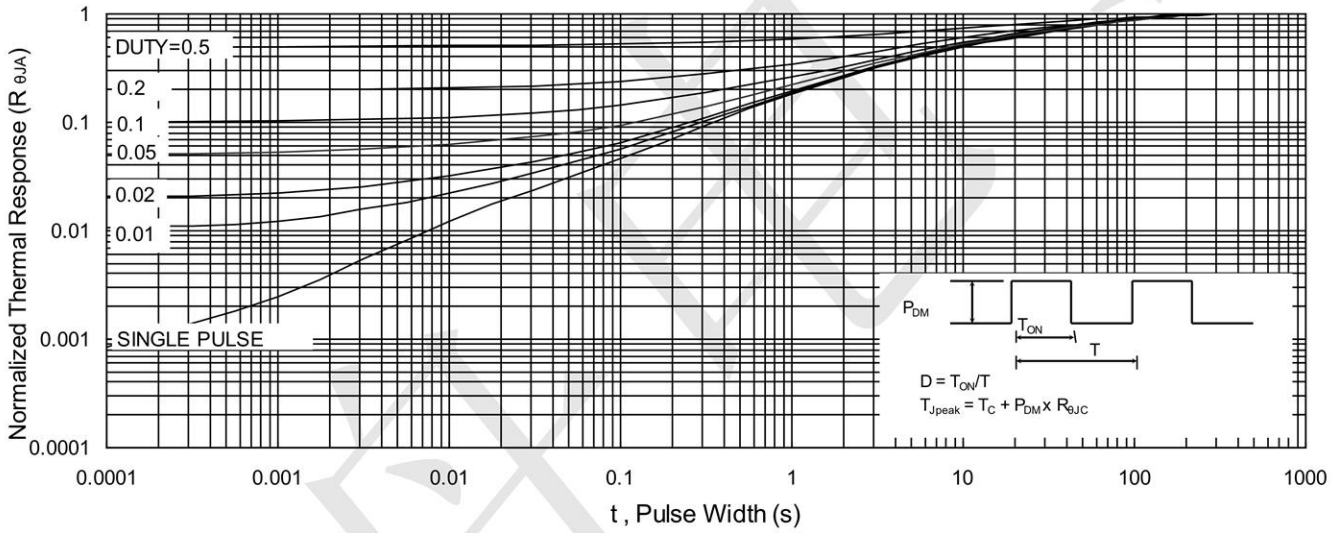


Fig.9 Normalized Maximum Transient Thermal Impedance

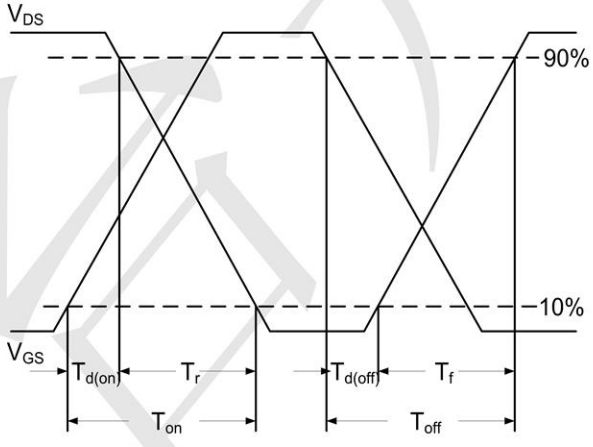


Fig.10 Switching Time Waveform

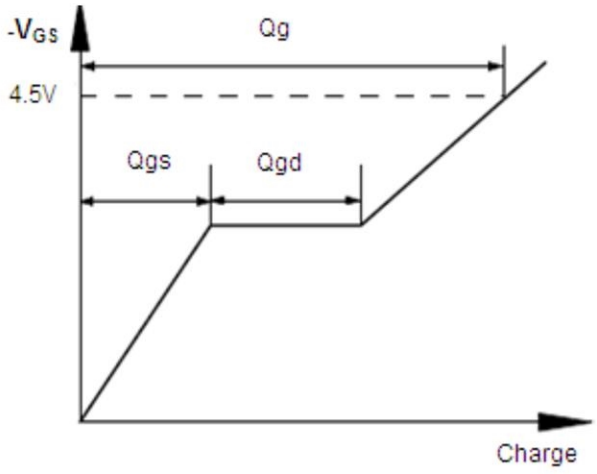
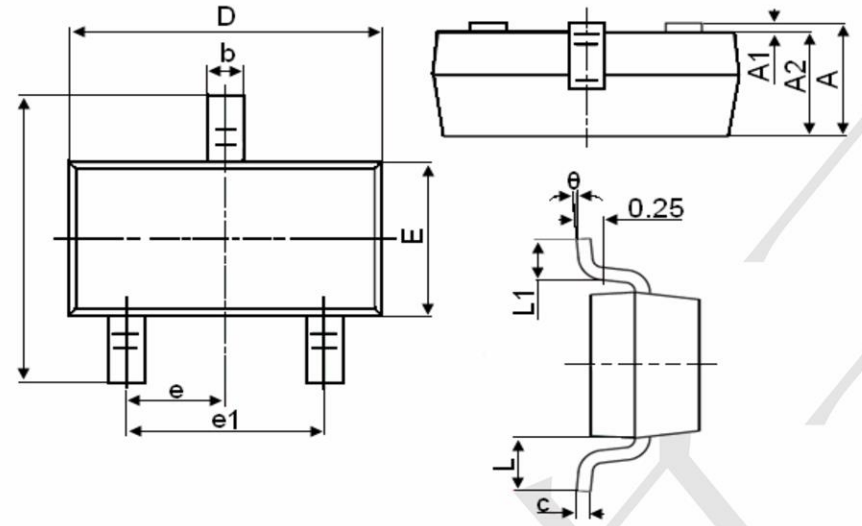


Fig.11 Gate Charge Waveform

SOT-23 Package Information



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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