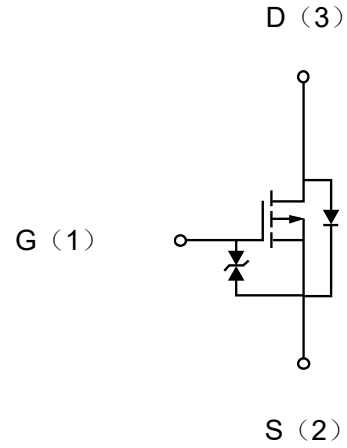


**Description**

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$I_D(mA)$
-20	0.45@ $V_{GS}=-4.5V$	-800
	0.62@ $V_{GS}=-2.5V$	
	0.86@ $V_{GS}=-1.8V$	


**Absolute maximum rating@25°C**

Parameter		Symbol	Value	Units
Drain-Source Voltage		$V_{DS}$	-20	V
Gate-Source Voltage		$V_{GS}$	$\pm 10$	V
Continuous Drain Current( $T_J=150^\circ C$ )	Continuous	$I_D$	-800	mA
	Pulsed	$I_{DP}$	-1200	
Source current(Body diode)	Continuous	$I_S$	-500	mA
	Pulsed	$I_{SP}$	-1200	
Total power dissipation		$P_D$	150	mW
Channel temperature		$T_{CH}$	150	$^\circ C$
Range of storage temperature		$T_{STG}$	-55 to +150	$^\circ C$

**Thermal resistance**

Parameter	Symbol	Limits	Units
Channel to ambient	$R_{th}(ch-a)$	833	$^\circ C/W$

## Electrical characteristics per line@25°C ( unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D = -1mA, V_{GS} = 0V$	-20		-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$	-	-	-1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 8V$	-	-	$\pm 10$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = -10V, I_D = -100\mu A$	-0.5	-	-1.1	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -700mA$	-	0.45	0.6	$\Omega$
		$V_{GS} = -2.5V, I_D = -300mA$	-	0.62	0.85	$\Omega$
		$V_{GS} = -1.8V, I_D = -250mA$		0.86	2.0	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -10V, I_D = -200mA$	0.3			s
Input Capacitance	$C_{ISS}$	$V_{GS} = 0V, V_{DS} = -10V,$ $f = 1MHz$	-	110		pF
Output Capacitance	$C_{OSS}$		-	9		pF
Reverse Transfer Capacitance	$C_{RSS}$		-	5		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10V, V_{GS} = -4.5V,$ $R_G = 10\Omega, R_L = 100\Omega$ $I_D = -100mA$	-	5		ns
Turn-Off Delay Time	$t_{d(off)}$		-	15		ns
Turn-On Rise Time	$t_r$		-	4		ns
Turn-On Fall Time	$t_f$		-	13		ns
Total Gate Charge	$Q_g$	$V_{DD} = -10V, V_{GS} = -4.5V,$ $I_D = -200mA$ $R_G = 10\Omega, R_L = 50\Omega$		1.4		nC
Gate-Source Charge	$Q_{gs}$			0.3		nC
Gate-Drain Charge	$Q_{gd}$			0.3		nC
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS} = 0V, I_S = -200mA$		-	-1.2	V

Typical Characteristics

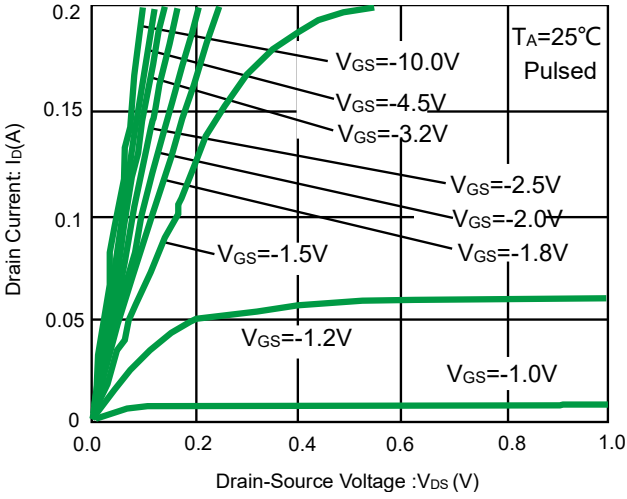


Fig 1. Typical output characteristics ( I )

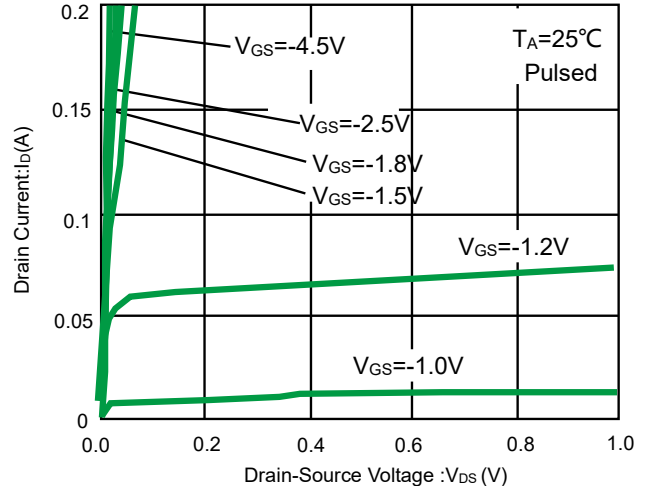


Fig 2. Typical output characteristics ( II )

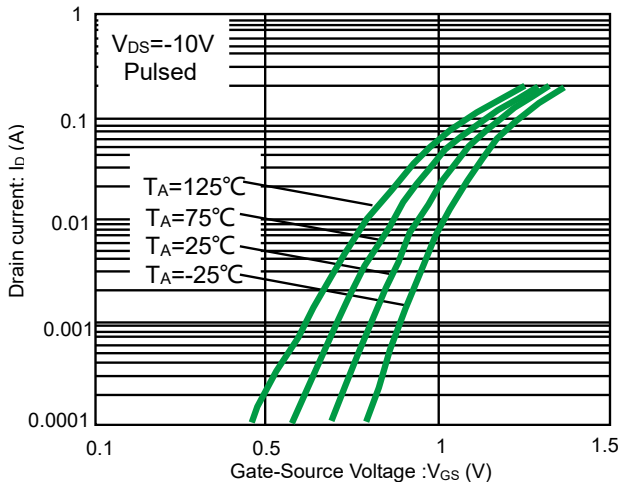


Fig 3. Typical transfer characteristics

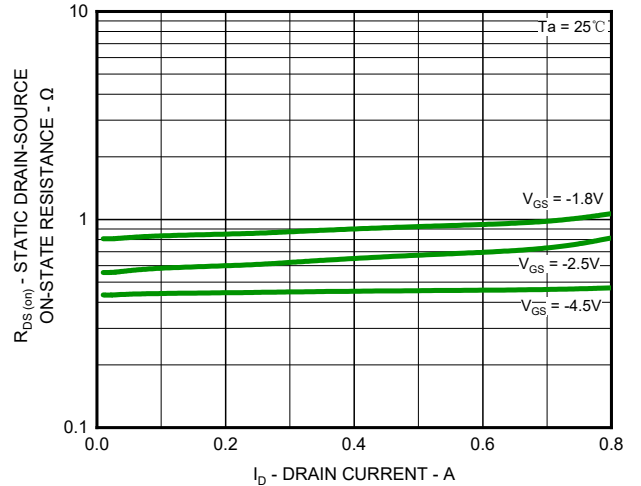


Fig 4. Static drain-source on-state resistance vs. drain current ( I )

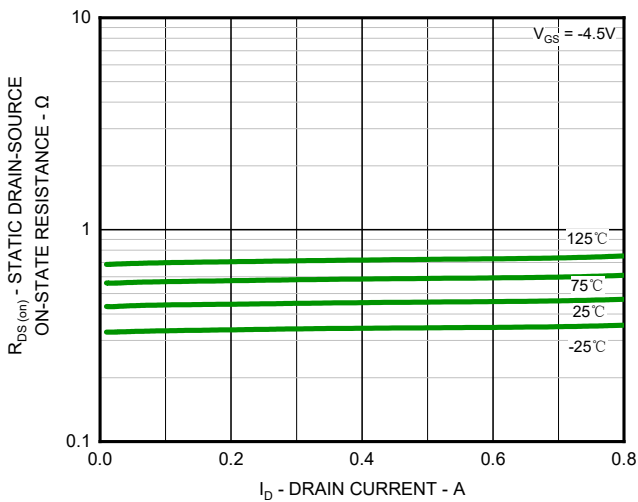


Fig 5. Static drain-source on-state resistance vs. drain current ( II )

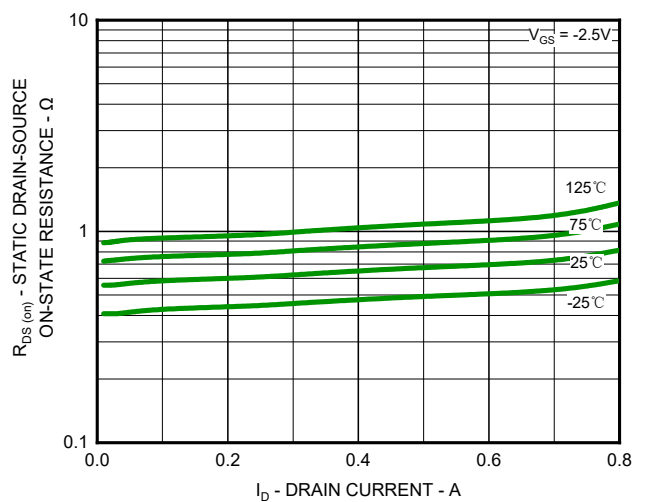


Fig 6. Static drain-source on-state resistance vs. drain current ( III )

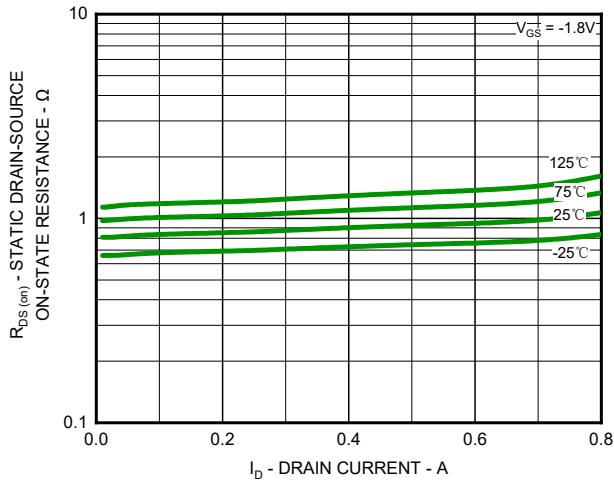


Fig 7. Static drain-source on-state resistance vs. drain current(I<sub>D</sub>)

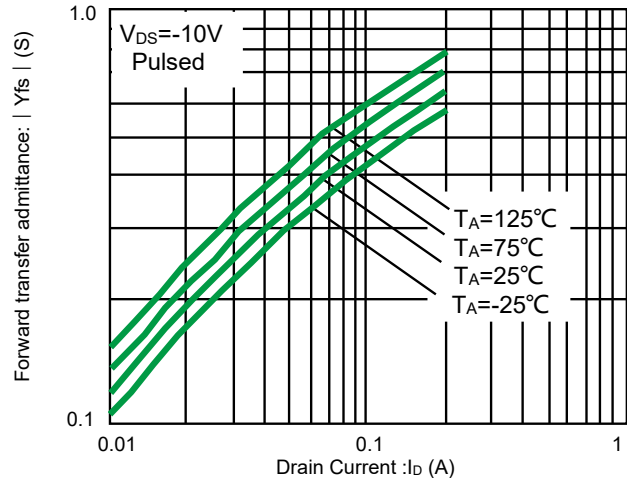


Fig 8. Forward transfer admittance vs. drain current

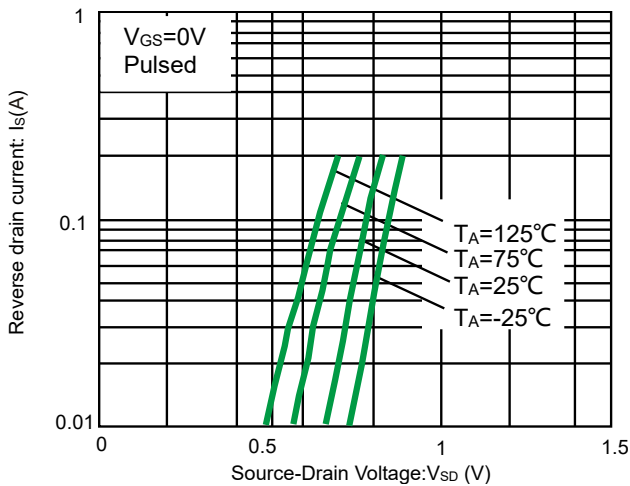


Fig 9. Reverse drain current vs. source-drain voltage

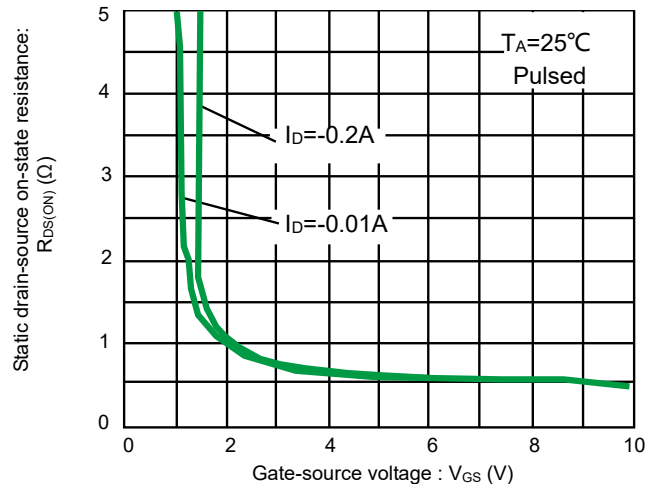


Fig 10. Static drain-source on-state resistance vs. gate source voltage

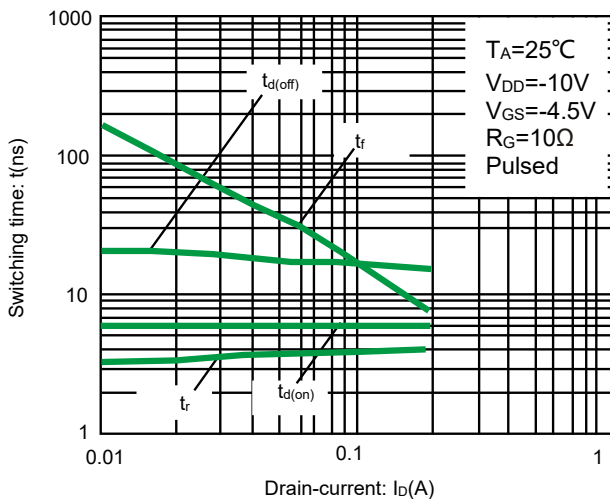


Fig 11. Switching characteristics

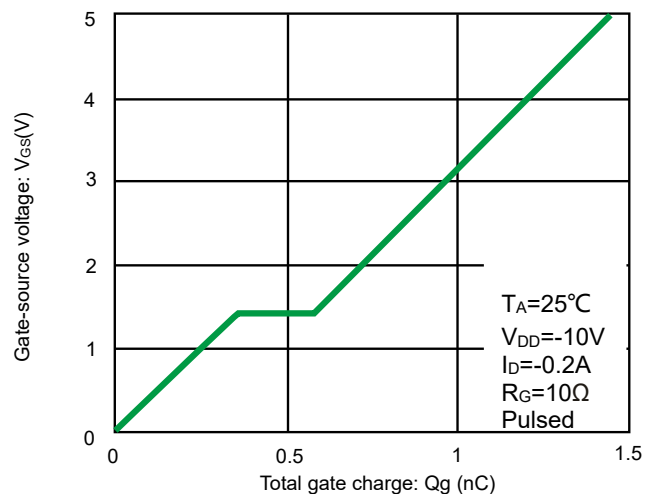


Fig 12. Dynamic input characteristics

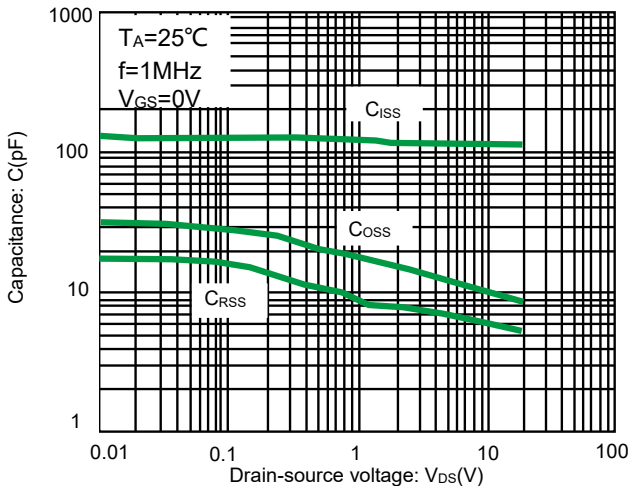


Fig 13. Typical capacitance vs. drain-source voltage

Measurement circuit

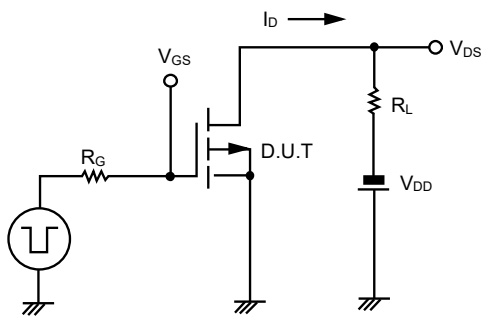


Fig.1-1 Switching time measurement circuit

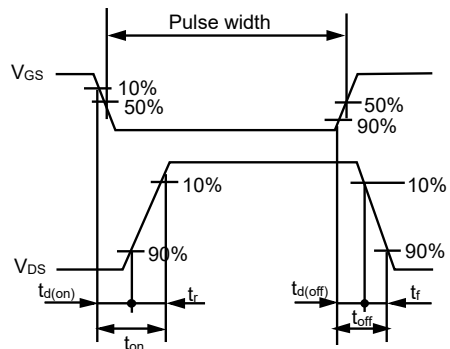


Fig.1-2 Switching time waveforms

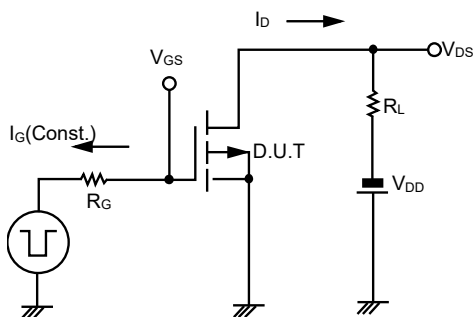


Fig.2-1 Gate charge measurement circuit

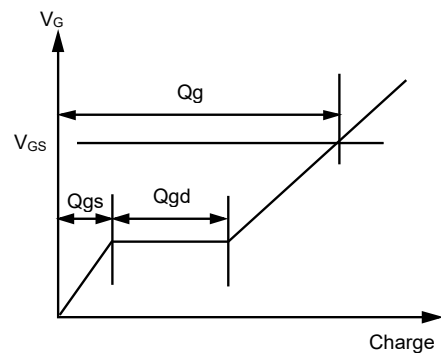
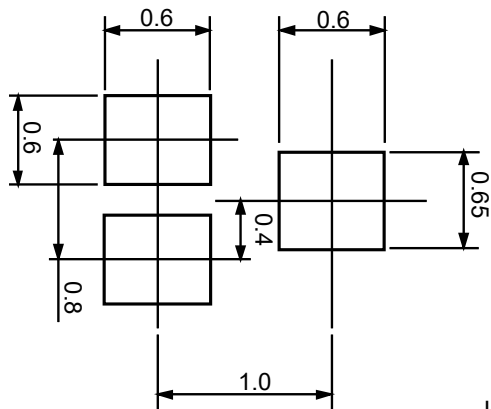
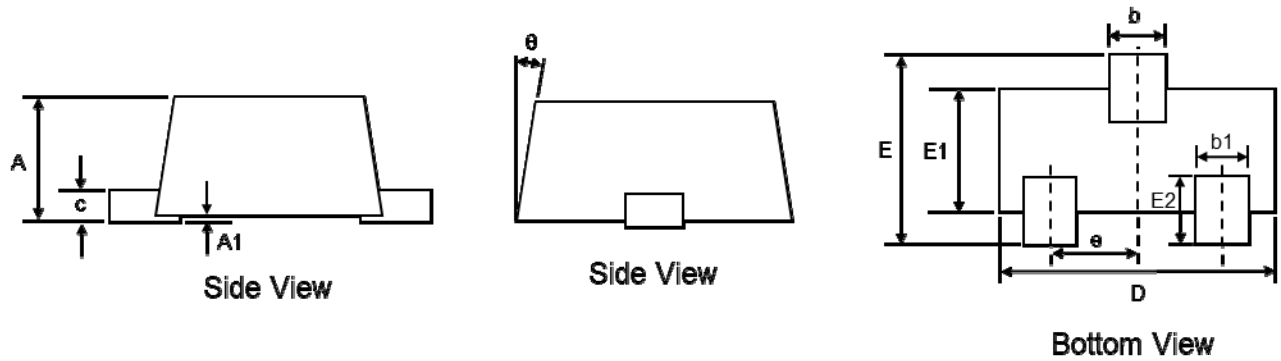


Fig.2-2 Gate charge waveform

Product dimension (SOT-723)



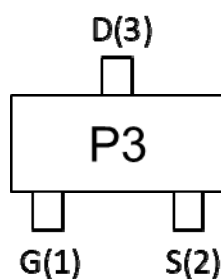
Unit: mm

Dim	Millimeters	
	Min	Max
A	0.40	0.55
A1	0.00	0.05
b	0.20	0.37
b1	0.15	0.27
c	0.06	0.18
D	1.10	1.30
E	1.10	1.30
E1	0.70	0.90
E2	0.20	0.30
e	0.40 Ref.	
θ	5°	9°


Ordering information

Device	Package	Shipping
PPM723T201E0	SOT-723 (Pb-Free)	10000 / Tape & Reel

Marking information




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