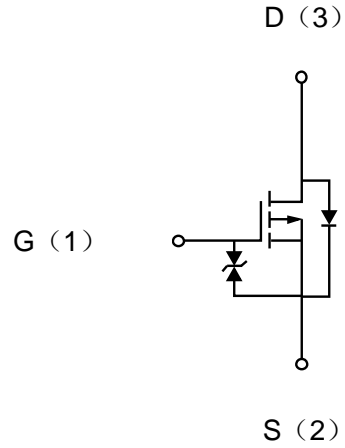


### Description

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

MOSFET Product Summary		
V <sub>DS</sub> (V)	R <sub>DS(on)</sub> ( $\Omega$ )	I <sub>D</sub> (mA)
-20	0.45 @ V <sub>GS</sub> =-4.5V	-800
	0.62 @ V <sub>GS</sub> =-2.5V	
	0.86 @ V <sub>GS</sub> =-1.8V	



### Absolute maximum rating@25°C

Parameter		Symbol	Value	Units
Drain-Source Voltage		V <sub>DS</sub>	-20	V
Gate-Source Voltage		V <sub>GS</sub>	±10	V
Continuous Drain Current(T <sub>J</sub> =150°C)	Continuous	I <sub>D</sub>	-800	mA
	Pulsed	I <sub>DP</sub>	-1200	
Source current(Body diode)	Continuous	I <sub>S</sub>	-500	mA
	Pulsed	I <sub>SP</sub>	-1200	
Total power dissipation		P <sub>D</sub>	150	mW
Channel temperature		T <sub>CH</sub>	150	°C
Range of storage temperature		T <sub>STG</sub>	-55 to +150	°C

### Thermal resistance

Parameter	Symbol	Limits	Units
Channel to ambient	R <sub>th(ch-a)</sub>	833	°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	0.7	$\Omega$
		$V_{GS} = -2.5V, I_D = -300mA$	-	0.62	0.85	$\Omega$
		$V_{GS} = -1.8V, I_D = -250mA$		0.86	1.2	$\Omega$
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

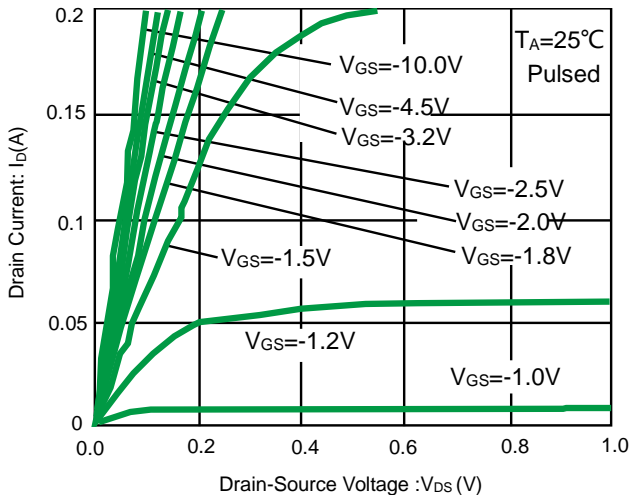


Fig 1. Typical output characteristics (I)

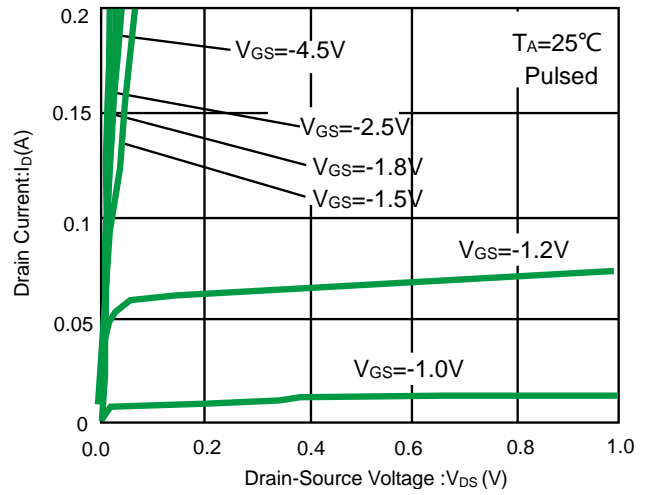


Fig 2. Typical output characteristics (II)

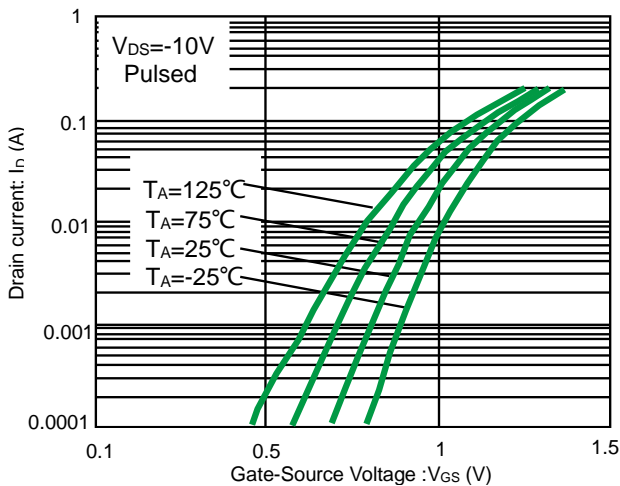


Fig 3. Typical transfer characteristics

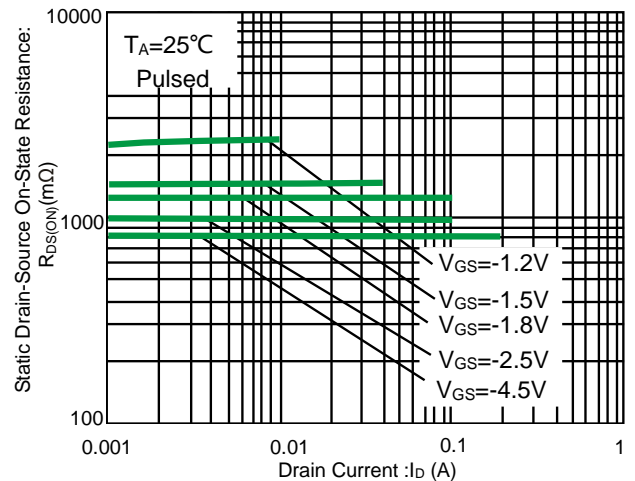


Fig 4. Static drain-source on-state resistance vs. drain current (I)

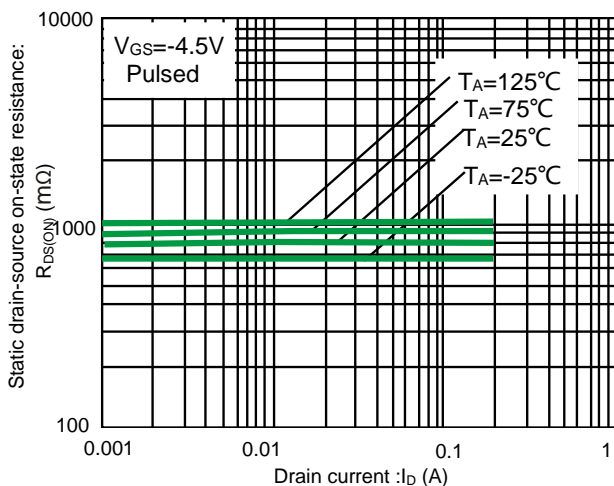


Fig 5. Static drain-source on-state resistance vs. drain current (II)

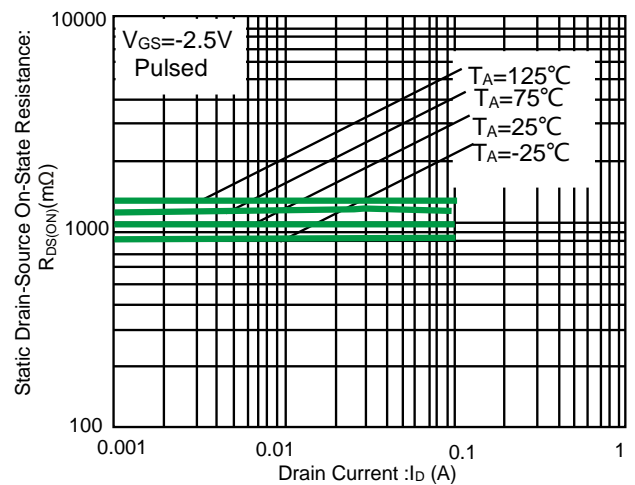


Fig 6. Static drain-source on-state resistance vs. drain current (III)

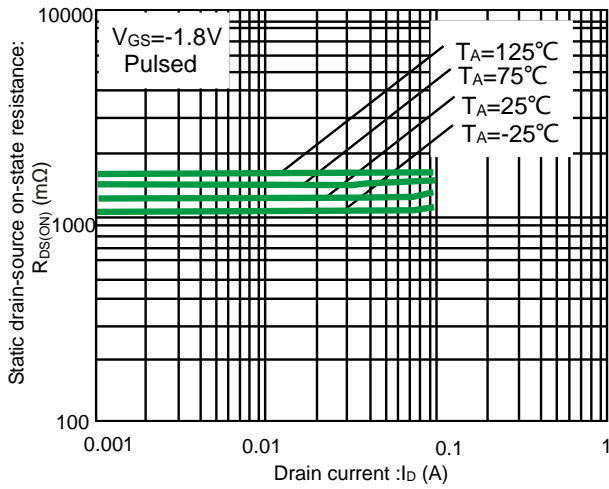


Fig 7. Static drain-source on-state resistance vs. drain current(IV)

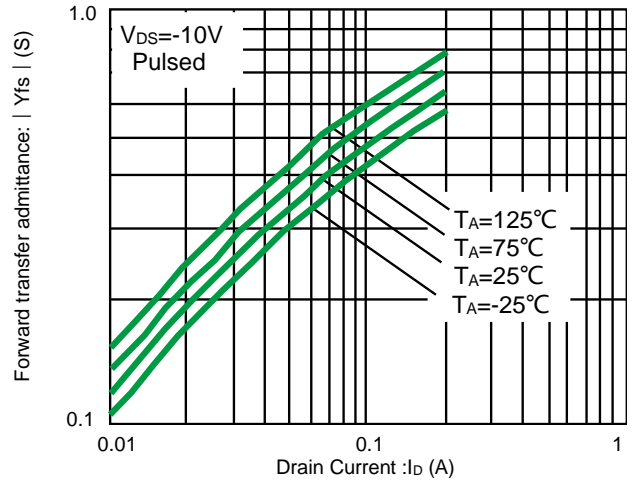


Fig 8. Forward transfer admittance vs. drain current

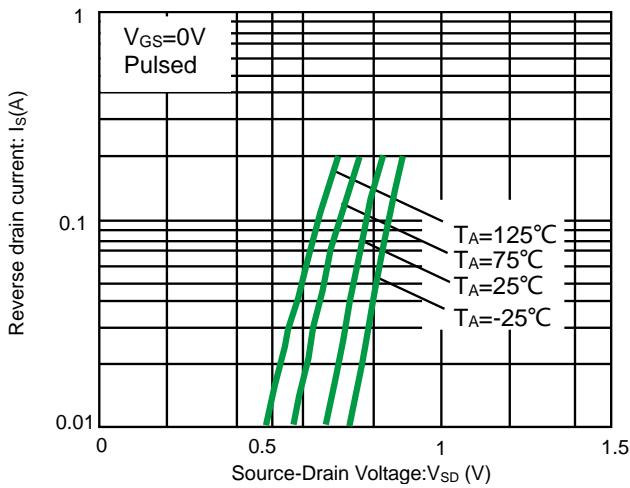


Fig 9. Reverse drain current vs. source-drain voltage

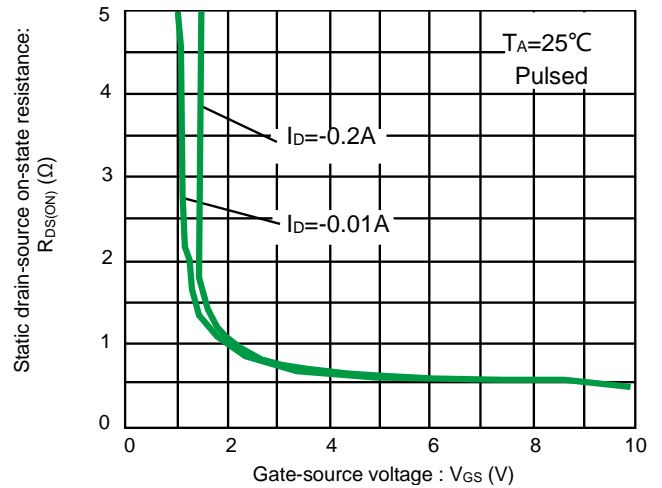


Fig 10. Static drain-source on-state resistance vs. gate source voltage

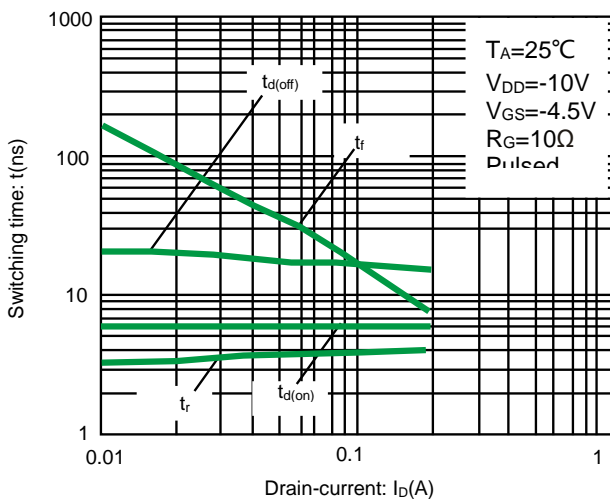


Fig 11. Switching characteristics

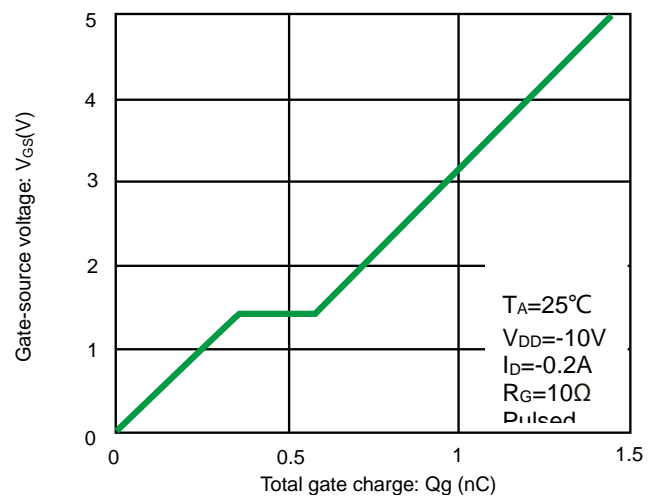


Fig 12. Dynamic input characteristics

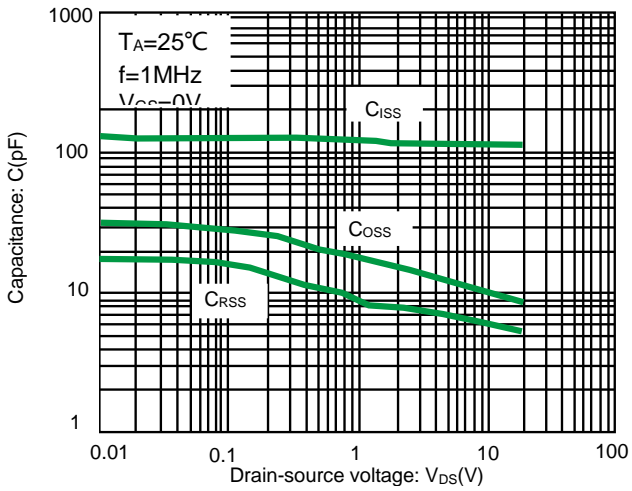


Fig 13. Typical capacitance vs. drain-source voltage

Measurement circuit

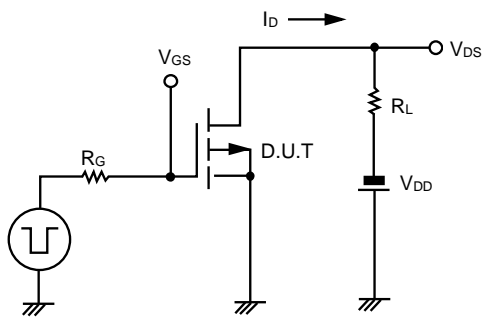


Fig.1-1 Switching time measurement circuit

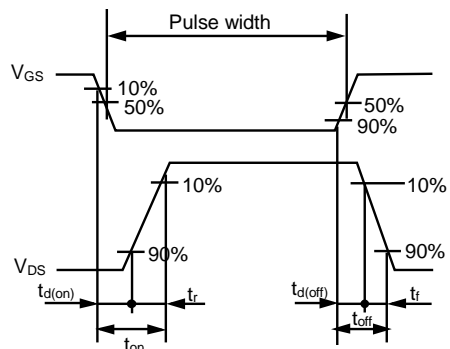


Fig.1-2 Switching time waveforms

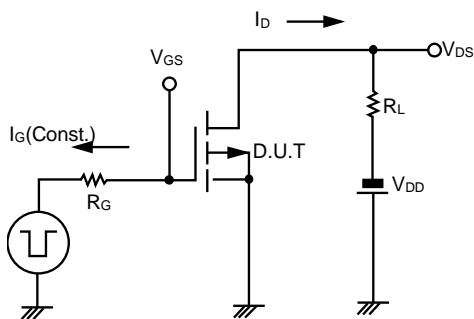


Fig.2-1 Gate charge measurement circuit

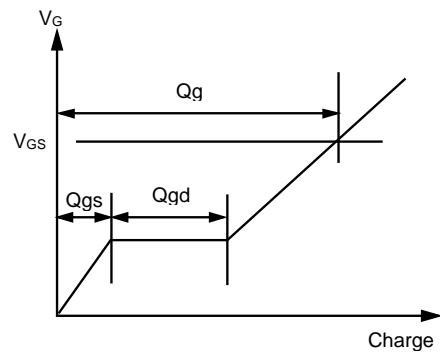
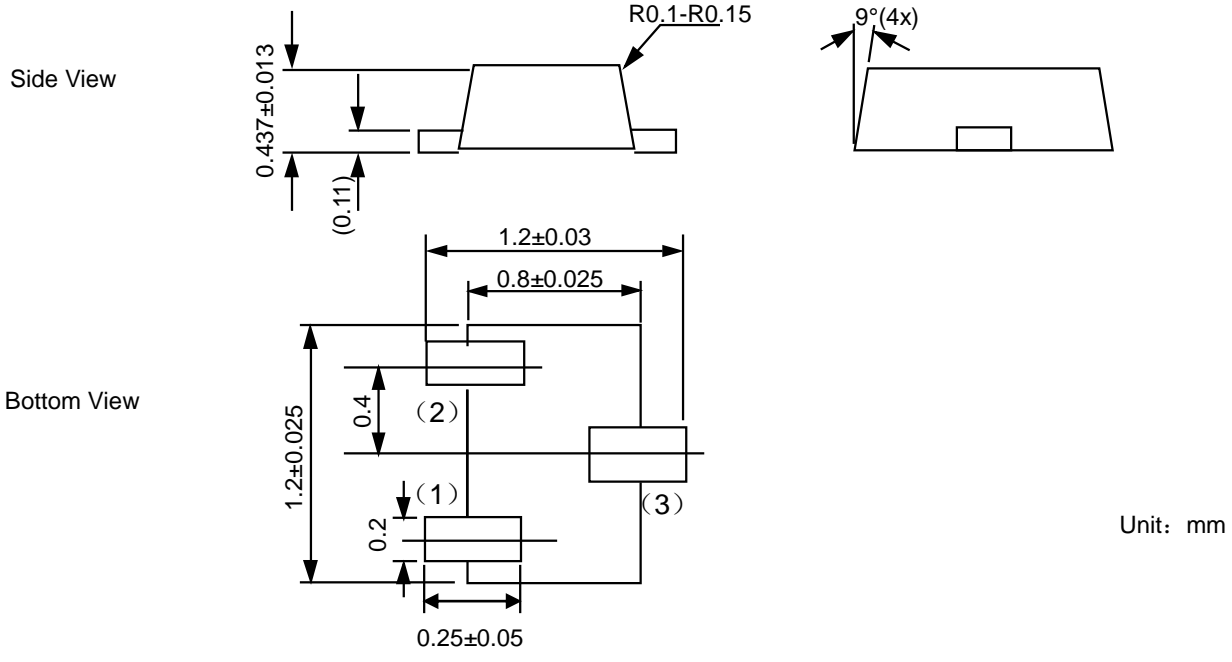
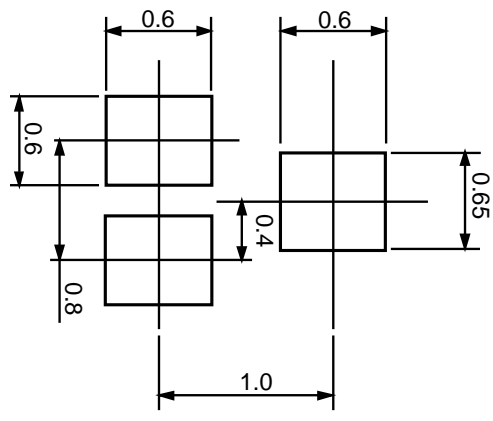


Fig.2-2 Gate charge waveform

Product dimension (SOT-723)



Unit: mm




Unit: mm

Ordering information

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


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