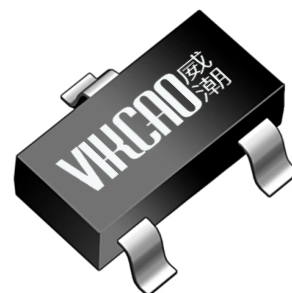


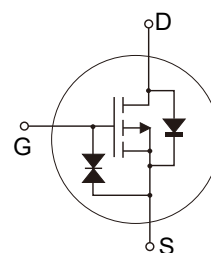
P-Channel MOSFET

■ Features

- Energy efficient
- Low threshold voltage
- High-speed switching
- Miniature surface mount package saves board space
- ESD protected(HBM) up to 2KV



■ Simplified outline(SOT-23)



■ Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	$-V_{DS}$	50	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$-I_D$	0.13	A
Pulsed Drain Current ^{Note1} @ $t_p < 10\mu s$	$-I_{DM}$	0.52	
Power Dissipation	P_D	225	mW
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55 to 150	$^{\circ}\text{C}$
Thermal Characteristics			
Parameter	Symbol	Typ.	Units
Maximum Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	556	$^{\circ}\text{C/W}$

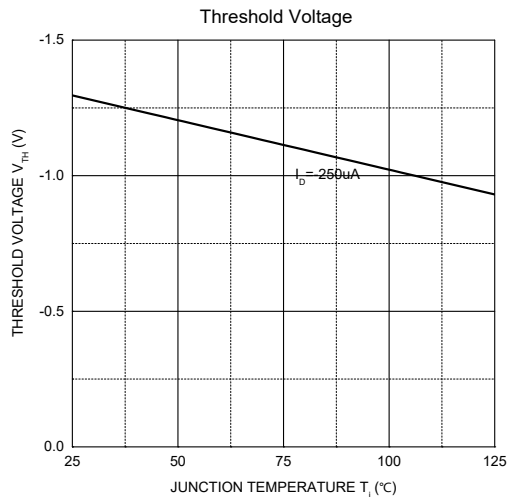
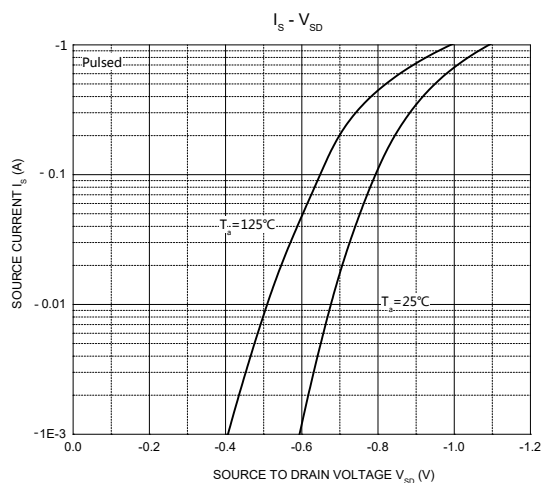
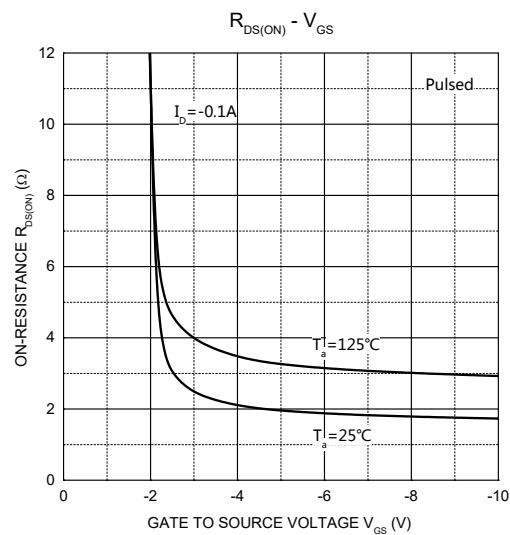
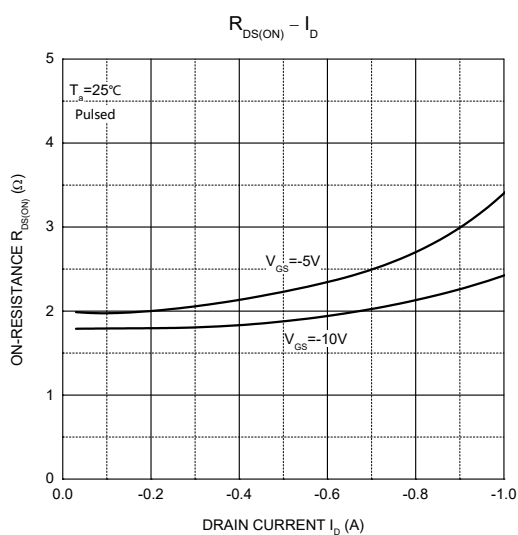
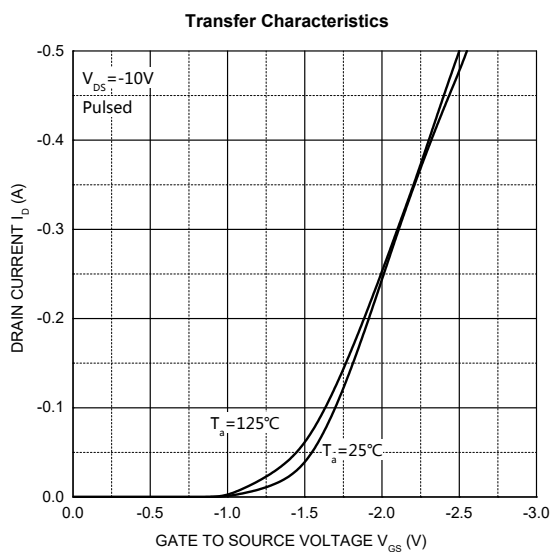
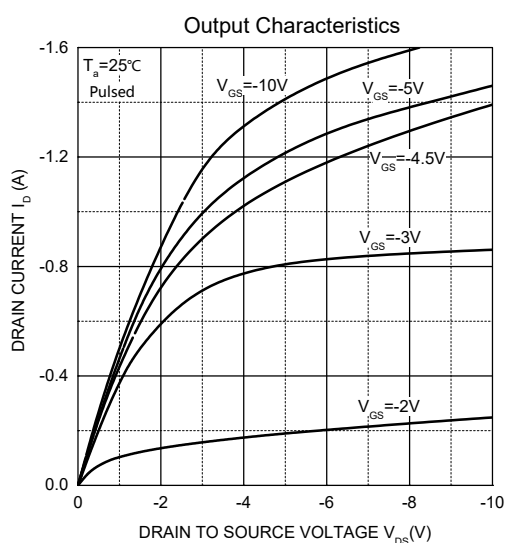
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Parameters						
Drain-Source Breakdown Voltage	-BV _{DSS}	-I _D =250μA, V _{GS} =0V	50	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	-V _{DS} =50V, V _{GS} =0V	--	--	1	μA
		-V _{DS} =25V, V _{GS} =0V	--	--	0.1	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V	--	1	5	μA
Gate Threshold Voltage ^{Note3}	-V _{GS(th)}	V _{DS} =V _{GS} , -I _D =250μA	0.9	1.3	2	V
Static Drain-Source On-Resistance ^{Note3}	R _{DS(ON)}	-V _{GS} =10V, -I _D =0.1A	--	1.7	8	Ω
		-V _{GS} =5V, -I _D =0.1A	--	1.9	10	Ω
Body Diode Forward Voltage	-V _{SD}	-I _S =0.13A, V _{GS} =0V	--	--	1.2	V
Dynamic Parameters						
Forward Transconductance ^{Note3}	g _{FS}	-V _{DS} =25V, -I _D =0.1A	50	--	--	mS
Input Capacitance	C _{iss}	V _{GS} =0V, -V _{DS} =5V, f=1MHz	--	30	--	pF
Output Capacitance	C _{oss}		--	10	--	pF
Reverse Transfer Capacitance	C _{rss}		--	5	--	pF
Switching Parameters						
Turn-On DelayTime	t _{D(on)}	-V _{DD} =15V, R _L =50Ω, -I _D =2.5A	--	2.5	--	ns
Turn-On Rise Time	t _r		--	1	--	ns
Turn-Off DelayTime	t _{D(off)}		--	16	--	ns
Turn-Off Fall Time	t _f		--	8	--	ns
Source-Drain Diode characteristics						
Diode forward current	-I _S		--	--	0.13	A
Diode pulsed forward current	-I _{SM}		--	--	0.52	A

Notes: 1. Repetitive rating : Pulse width limited by junction temperature.

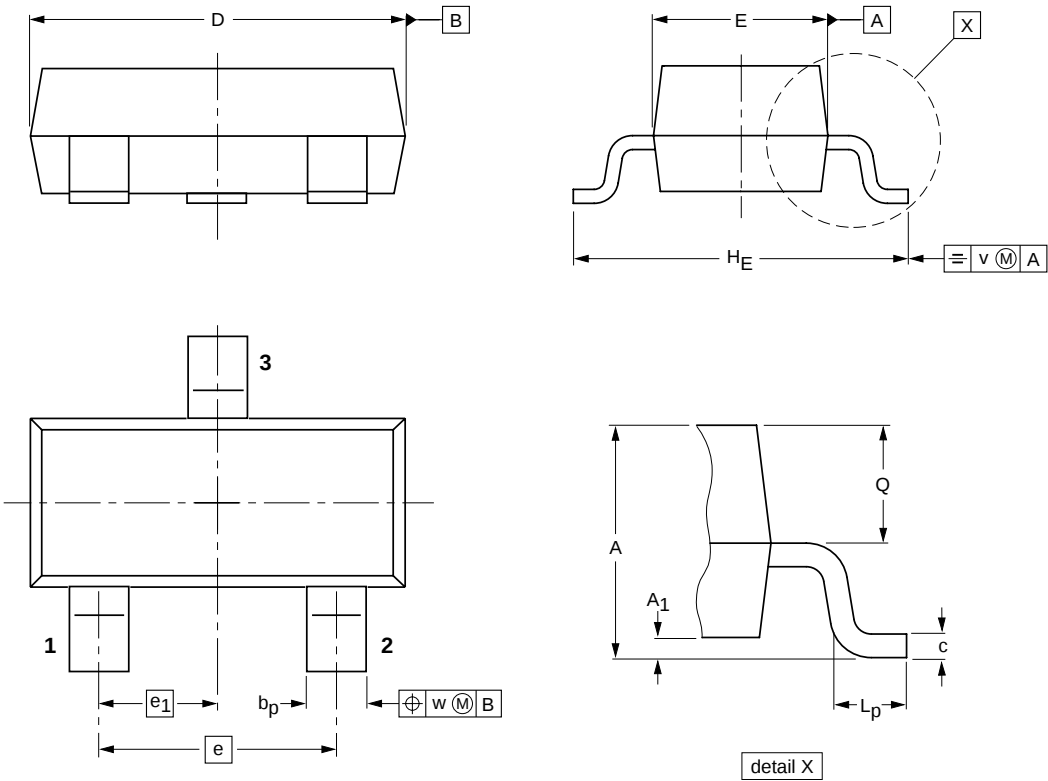
2. Surface mounted on FR4 board , $t \leq 10s$.

3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.





■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1