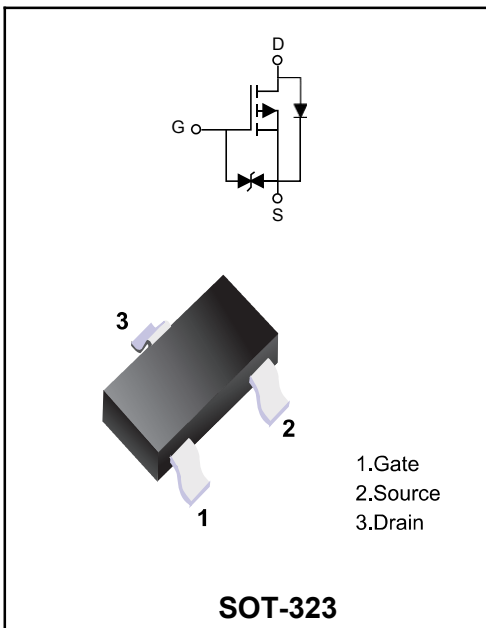


-20V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-0.66A
V_{DSS}	-20V
$R_{DS(on)-MAX}@V_{GS}=-4.5V$	$<0.520\Omega$
$R_{DS(on)-MAX}@V_{GS}=-2.5V$	$<0.700\Omega$
$R_{DS(on)-TYP}@V_{GS}=-1.8V$	$<0.950\Omega$



FEATURE

- ◆Lead Free Product isAcquired
- ◆Surface Mount Package
- ◆P-Channel Switch with Low RDS(on)
- ◆Operated at Low Logic Level GateDrive

APPLICATIONS

- ◆Load/Power Switching
- ◆Interfacing, Logic Switching
- ◆Battery Management for Ultra Small Portable Electronics

Marking Code	
YFW3139KW	39K

Maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	-0.66	A
Pulsed Drain Current (tp=10μ s)	I_{DM}	-1.2	
Maximum Power Dissipation	P_D	0.15	W
Thermal Resistance from Junction to Ambient(t ≤5s)	$R_{\theta JA}$	833	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~+150	°C

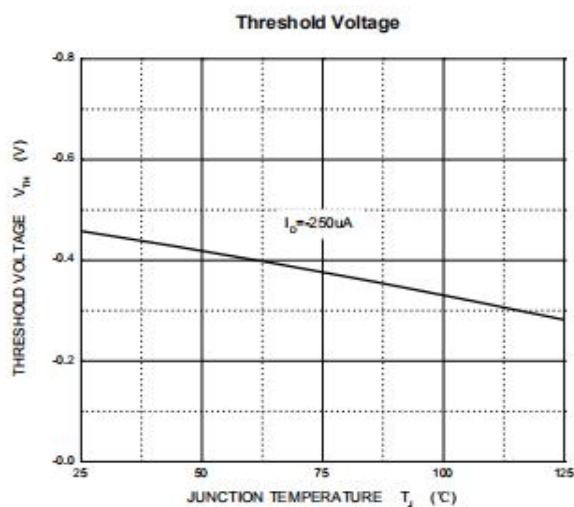
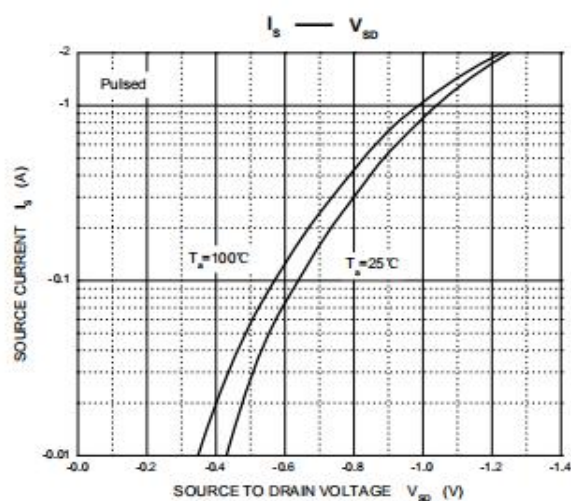
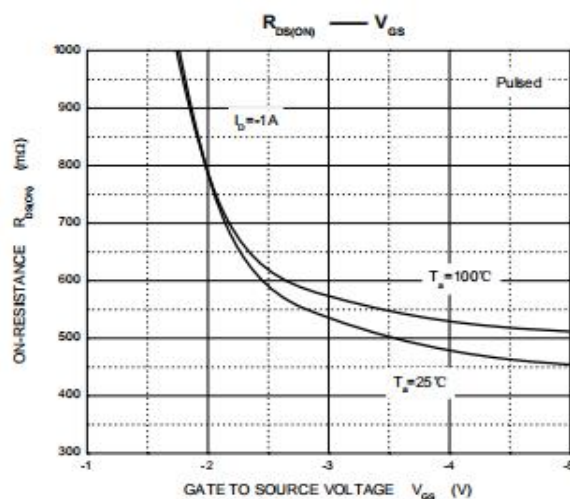
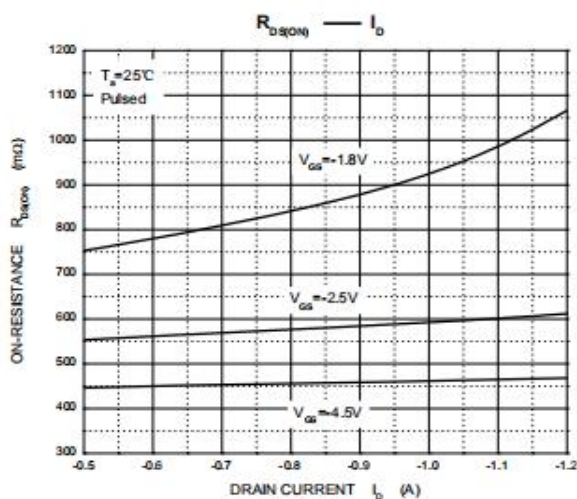
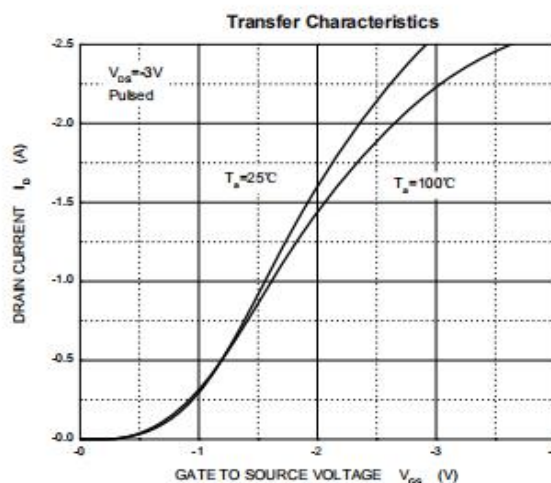
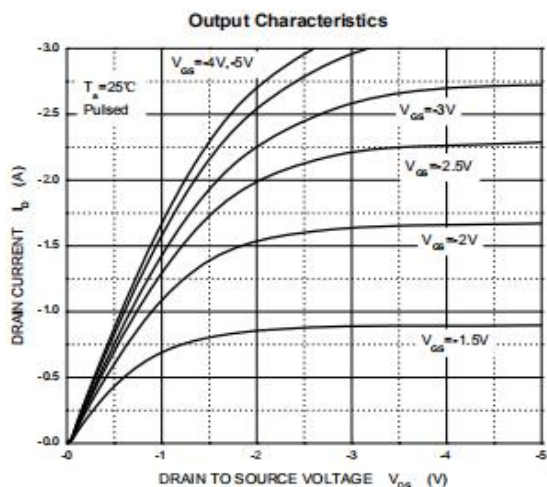
Electrical characteristics (Ta=25°C unless otherwise noted)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-source breakdown voltage	$V_{GS}=0V, I_D=-250\mu A$	BV_{DSS}	-20	-	-	V
Gate-source threshold voltage(note 2)	$V_{DS}=V_{GS}, I_D=-250\mu A$	$V_{GS(th)}$	-0.35	-	-1.1	V
Gate-source leakage	$V_{GS}=\pm 10V, V_{DS}=0V$	I_{GSS}	-	-	± 20	μA
Zero gate voltage drain current	$V_{DS}=-20V, V_{GS}=0V$	I_{DSS}	-	-	-1	μA
Drain-source on-state resistance (note 2)	$V_{GS}=-4.5V, I_D=-1A$	$R_{DS(on)}$	-	-	0.520	Ω
	$V_{GS}=-2.5V, I_D=-0.8A$		-	-	0.700	
	$V_{GS}=-1.8V, I_D=-0.5A$		-	0.950	-	
Forward transconductance (note 2)	$I_S=-0.5A, V_{GS}=0V$	g_{fs}	-	1.2	-	S
Input capacitance	$V_{DS}=-16V, V_{GS}=0V, f=1MHz$	C_{iss}	-	113	170	pF
Output capacitance		C_{oss}	-	15	25	
Reverse transfer capacitance		C_{rss}	-	9	15	
Turn-on delay time	$V_{DD}=-10V,$ $R_L=10\Omega, I_D=-200mA,$ $V_{GEN}=-4.5V, R_g=10\Omega$	$t_{d(on)}$	-	9	-	nS
Rise Time		T_r	-	5.8	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	32.7	-	
Fall Time		t_f	-	20.3	-	
Body diode voltage	$I_S=-0.5A, V_{GS}=0V$	V_{SD}	-	-0.8	-1.2	V

Notes :

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300 μs , Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

Typical Characteristics



Ordering information

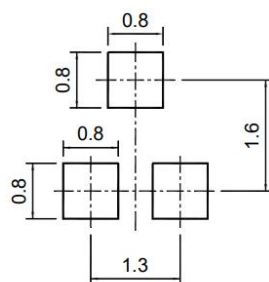
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-323

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
e	1.3		51	
e1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

The recommended mounting pad size



Disclaimer

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