

-20V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

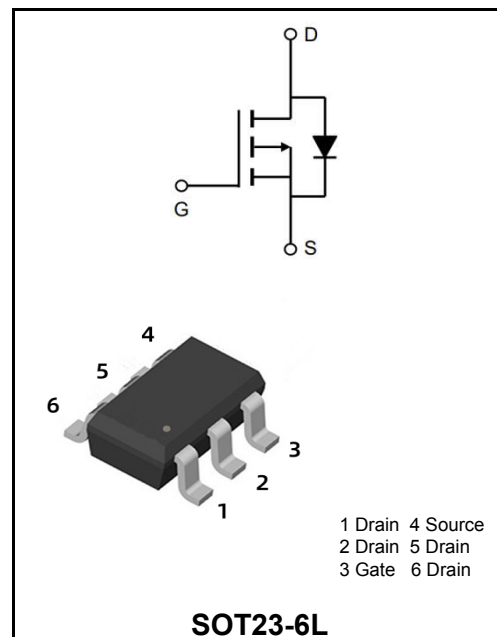
I_D	-5A
V_{DSS}	-20V
$R_{DS(on)-typ}(@V_{GS}=-4.5V)$	$<42m\Omega$ (Typ:32mΩ)
$R_{DS(on)-typ}(@V_{GS}=-2.5V)$	$<55m\Omega$ (Typ:42mΩ)

FEATURES

- ◆Case: SOT23-6L
- ◆Epoxy meets UL-94 V-0 flammability rating and halogen free
- ◆Moisture Sensitivity Level 3
- ◆High temperature soldering guaranteed 260°C/10seconds at terminals

APPLICATIONS

- ◆Load switch
- ◆Power management



Marking Code

YFW5P02LI

YFW 5P02LI

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	-20	V
Gate - Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ($V_{GS}=-4.5V$ Ta =25°C)	I_D	-5	A
Pulsed Drain Current	I_{DM}	-20	A
Power Dissipation ($V_{GS}=-4.5V$ Ta =25°C)	P_D	1.2	W
Junction Temperature	T_J	-55-+150	°C
Storage Temperature	T_{STG}	-55-+150	°C
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	104	°C/W

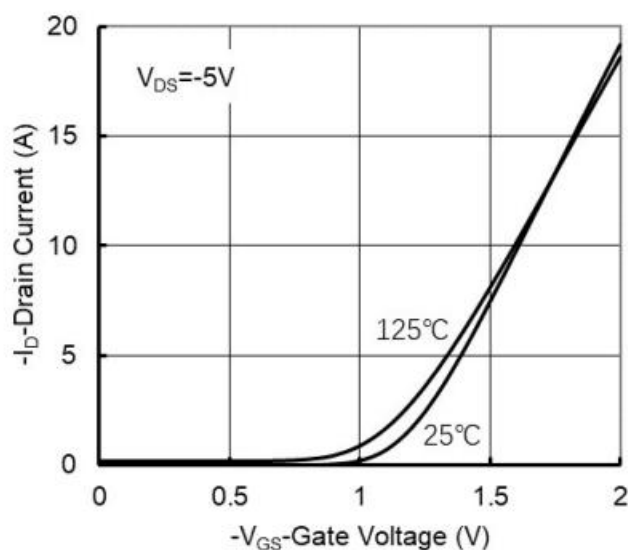
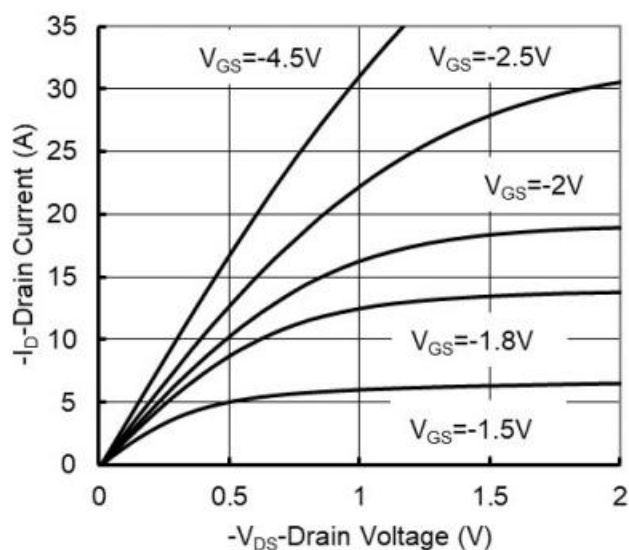
Electrical Characteristics (Ta=25°C, unless otherwise noted)

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 -Threshold Voltage	$V_{DS}=V_{GS}$, $I_D=-250\mu A$	$V_{GS(th)}$	-0.4	-0.68	-1.0	V
Zero Gate Voltage Drain Current	$V_{DS}=-20V$, $V_{GS}=0V$	I_{DSS}	-	-	-1	μA
Gate-body Leakage	$V_{DS}=\pm 12V$, $V_{GS}=0V$	I_{GSS}	-	-	± 100	nA
Static Drain-Source on-Resistance	$V_{GS}=-4.5V$, $I_D=-5A$	$R_{DS(ON)}$	-	32	42	m Ω
	$V_{GS}=-2.5V$, $I_D=-3A$		-	42	55	

Note:

- 1.The value of $R_{\theta JA}$ is measured with the device mounted on the 40mm*40mm*1.1mm single layer FR-4 PCB board with 1 in2 pad of 2 oz. Copper in the still-air environment. The maximum allowed junction temperature of 150 °C. The value in any given application depends on the user's specific board design.
- 2.Practically the current is limited by the overall system design including the customer-specific PCB.
- 3.The parameter is not subject to production testing – specified by design.

Typical Characteristics



Typical Characteristics

Figure1. Output Characteristics

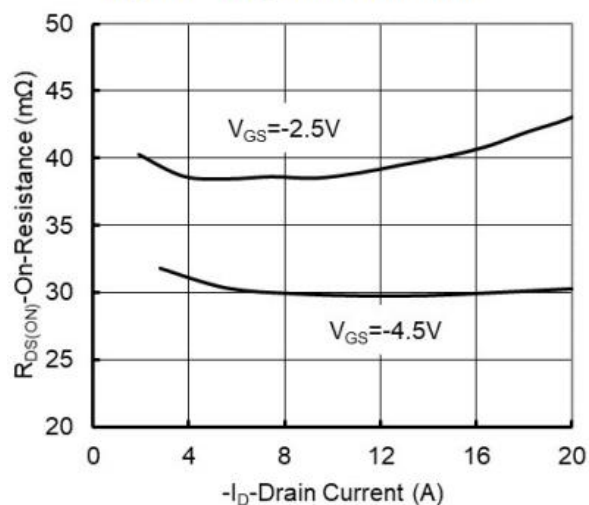


Figure2. Transfer Characteristics

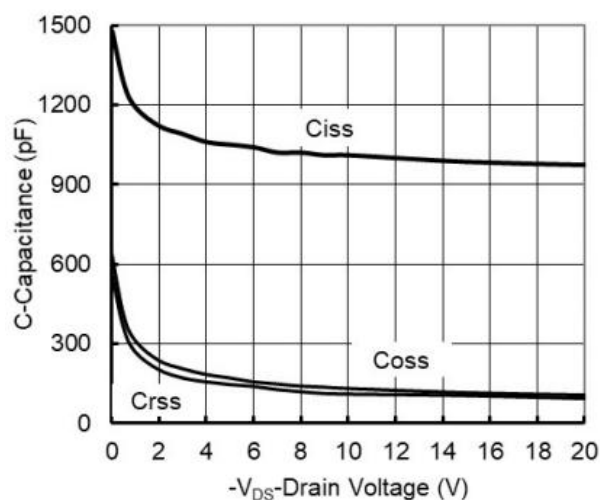
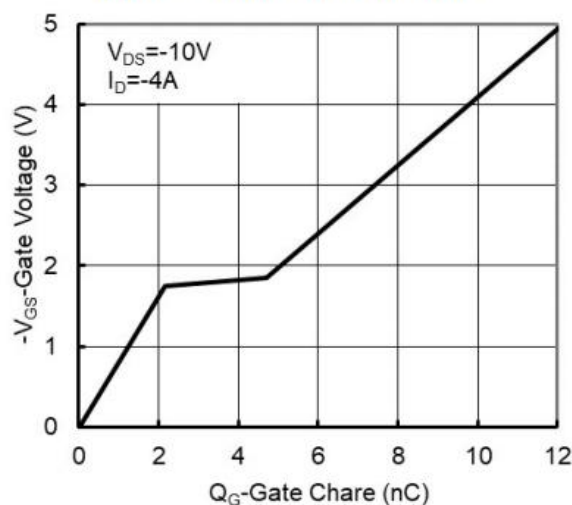


Figure5. Capacitance Characteristics

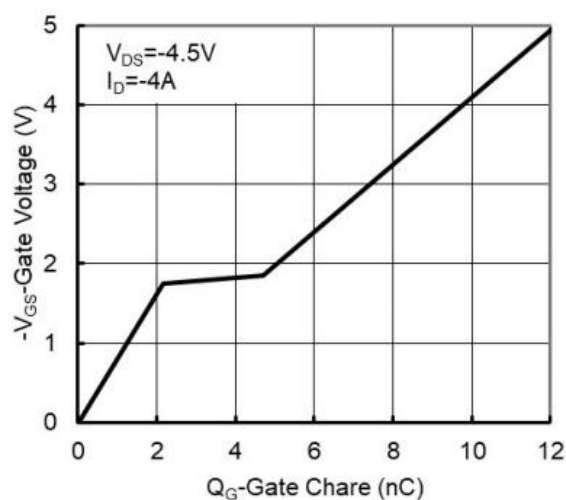


Figure6. Gate Charge

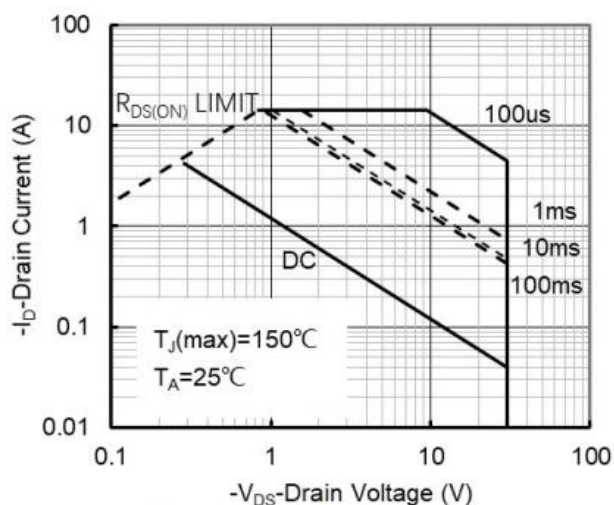


Figure7. Safe Operation Area

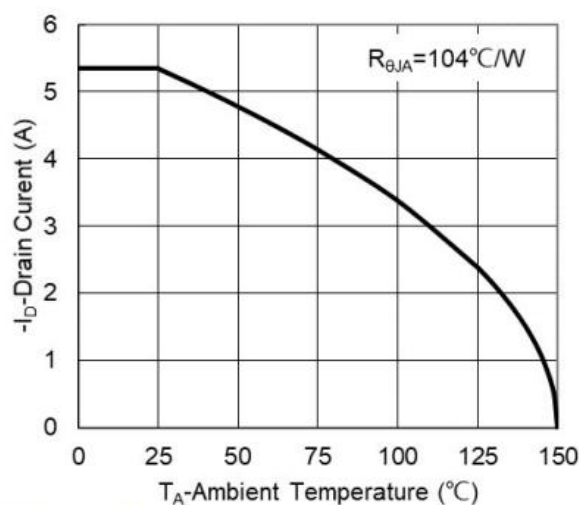


Figure8. Maximum Continuous Drain Current vs Ambient Temperature

Ordering information

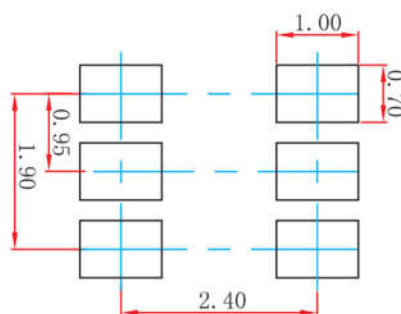
Package	Packing Description	Packing Quantity
SOT23-6L	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOT23-6L

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.05	1.25	41	49
A1	0	0.10	0	3.9
A2	1.05	1.15	41	45
b	0.30	0.50	11.8	19.7
c	0.10	0.20	3.9	7.9
D	2.82	3.02	111	119
E1	1.50	1.70	45	67
E	2.65	2.95	104	116
e	0.950(BSC)		37(BSC)	
e1	1.80	2.00	71	79
L	0.30	0.60	11.8	23.6
θ	0°	8°	0°	8°

The recommended mounting pad size



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