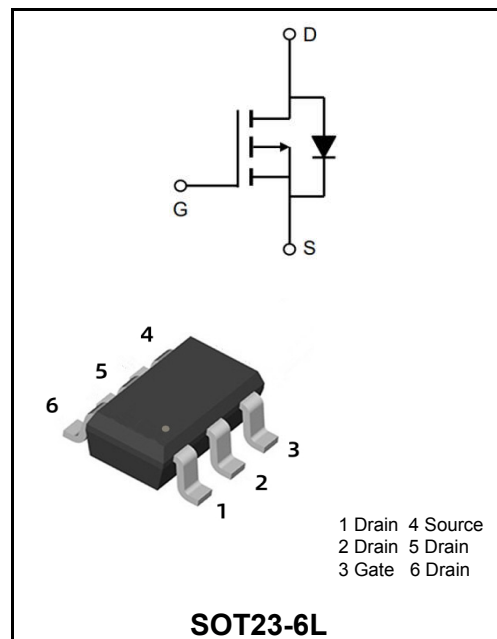


-30V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-6A
V_{DS}	-30V
$R_{DS(on)-typ}(@V_{GS}=-10V)$	$<35m\Omega$ (Typ:20m Ω)
$R_{DS(on)-typ}(@V_{GS}=-4.5V)$	$<58m\Omega$ (Typ:32m Ω)



Marking Code

YFW6403LI

DH

Absolute Maximum Ratings $T_A = 25^\circ C$

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current $T_A=25^\circ C$ $T_A=70^\circ C$	I_D	-6	A
		-5	
Pulsed Drain Current	I_{DM}	-30	
Power Dissipation $T_A=25^\circ C$ $T_A=70^\circ C$	P_D	2	W
		1.3	
Thermal Resistance.Junction- to-Ambient $t \leq 10s$ Steady-State	R_{thJA}	62.5	$^\circ C/W$
		110	
Thermal Resistance.Junction- to-Lead	R_{thJL}	50	
Junction TemperatureL	T_J	150	$^\circ C$
Junction Storage Temperature Range	T_{STG}	-55 to 150	

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

Parameter	Test Conditions	Symbol	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	I _D =-250μA, V _{GS} =0V	BV _{DSS}	-30			V
Zero Gate Voltage Drain Current	V _{DS} =-30V, V _{GS} =0V	I _{DSS}			-1	uA
	V _{DS} =-30V, V _{GS} =0V, T _J =55°C				-5	
Gate-Body leakage current	V _{DS} =0V, V _{GS} =±20V	I _{GSS}			±100	nA
Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	V _{GS(th)}	-1.3		-2.4	V
Static Drain-Source On-Resistance	V _{GS} =-10V, I _D =-6A	R _{DS(ON)}		20	35	mΩ
	V _{GS} =-10V, I _D =-6A, T _J =125°C			25	39	
	V _{GS} =-4.5V, I _D =-5A			32	58	
On state drain current	V _{GS} =-10V, V _{DS} =-5V	I _{D(ON)}	-30			A
Forward Transconductance	V _{DS} =-5V, I _D =-6A	g _{FS}		18		S
Input Capacitance	V _{GS} =0V V _{DS} =-15V f=1MHz	C _{iss}		760		pF
Output Capacitance		C _{oss}		140		
Reverse Transfer Capacitance		C _{rss}		95		
Gate resistance	V _{GS} =0V, V _{DS} =0V, f=1MHz	R _g	1.5		5	Ω
Total Gate Charge (10V)	V _{GS} =-10V V _{DS} =-15V I _D =-6A	Q _g		13.6	16	nC
Total Gate Charge (4.5V)				6.7	8	
Gate Source Charge		Q _{gs}		2.5		
Gate Drain Charge		Q _{gd}		3.2		
Turn-On DelayTime	V _{GS} =-10V V _{DS} =-15V R _L =2.7Ω R _{GEN} =3Ω	t _{d(on)}		8		ns
Turn-On Rise Time		T _r		6		
Turn-Off DelayTime		t _{d(OFF)}		17		
Turn-Off Fall Time		t _f		5		
Body Diode Reverse Recovery Time	I _F =-6A, di/dt=100A/μs	t _{rr}		15		nC
Body Diode Reverse Recovery Charge		Q _{rr}		9.7		
Maximum Body-Diode Continuous Current		I _s			-2.5	A
Diode Forward Voltage	I _s =-1A, V _{GS} =0V	V _{SD}			-1	V

*The static characteristics in Figures 1 to 6 are obtained using <300us pulses, duty cycle 0.5% max.

Typical Characteristics

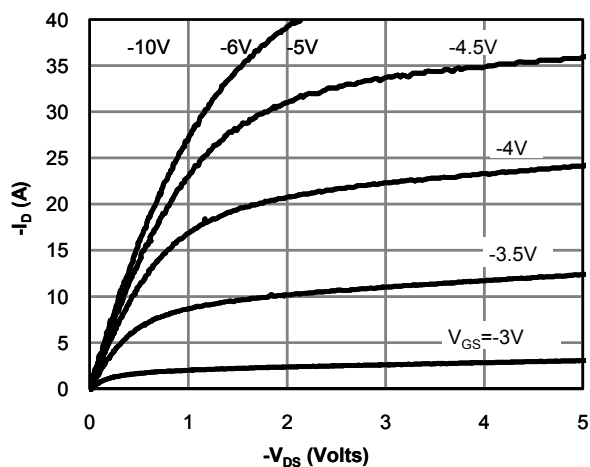


Figure 1: On-Region Characteristics (Note E)

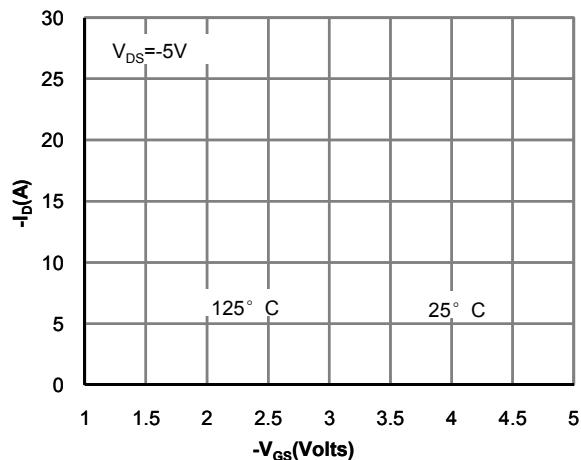


Figure 2: Transfer Characteristics (Note E)

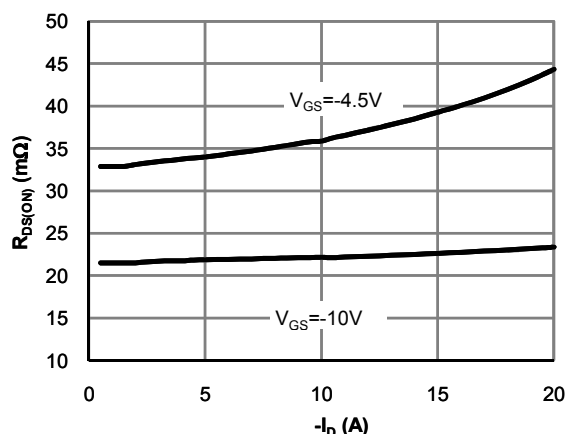


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

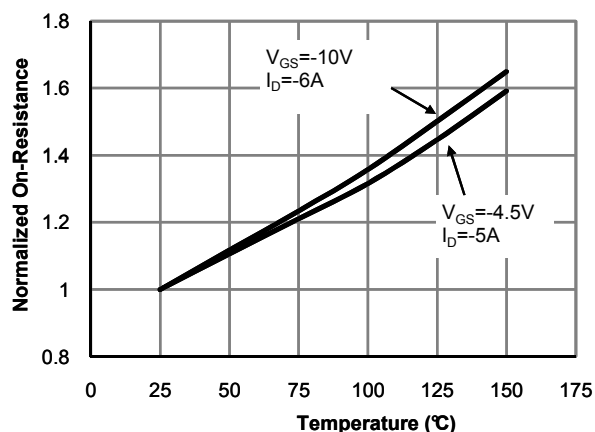


Figure 4: On-Resistance vs. Junction Temperature (Note E)

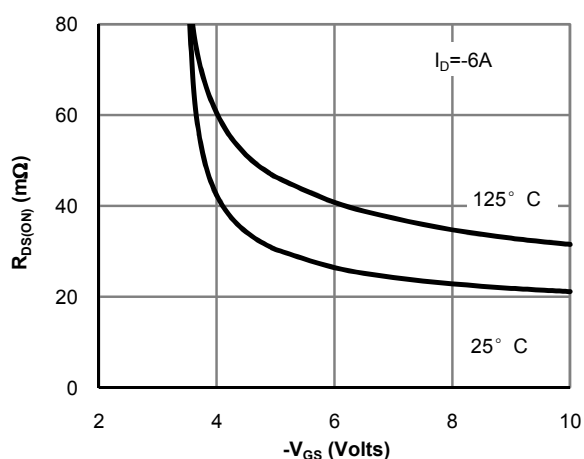


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

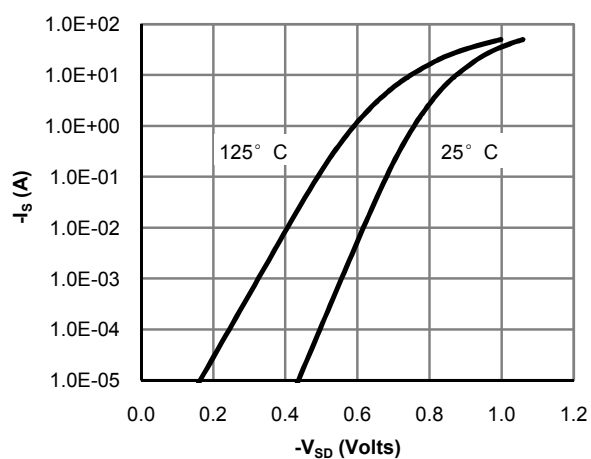
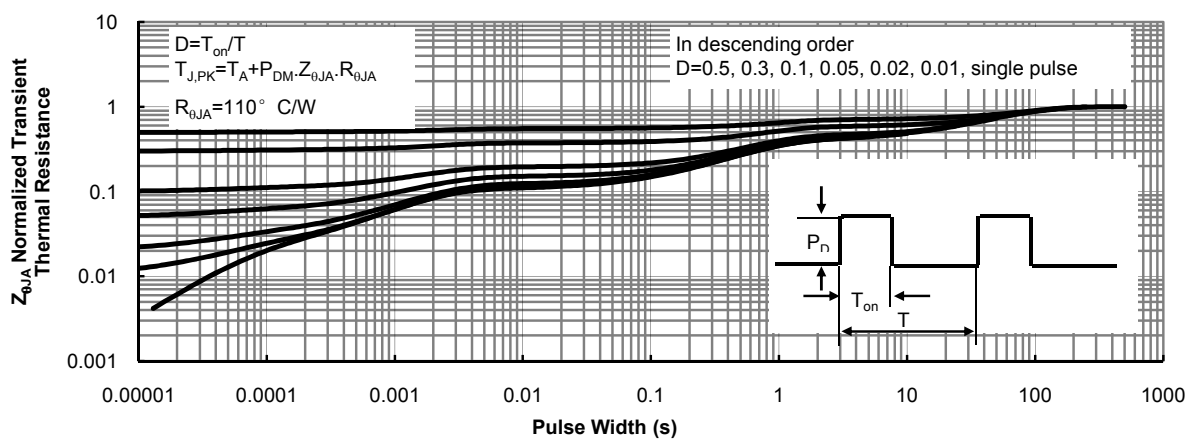
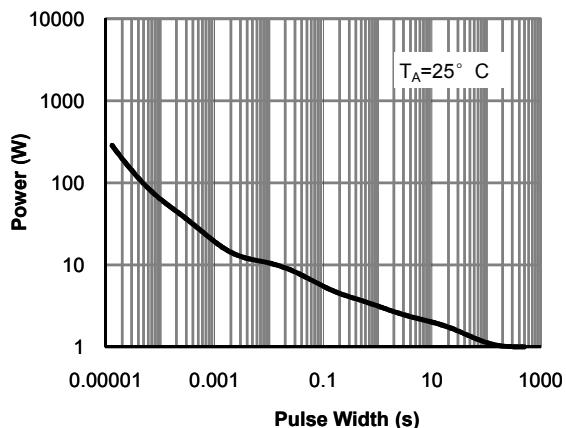
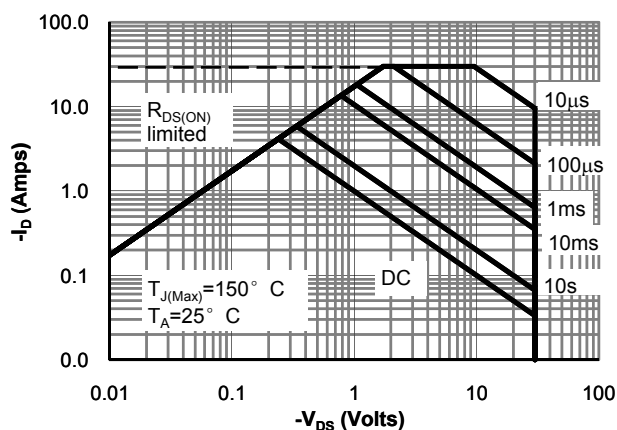
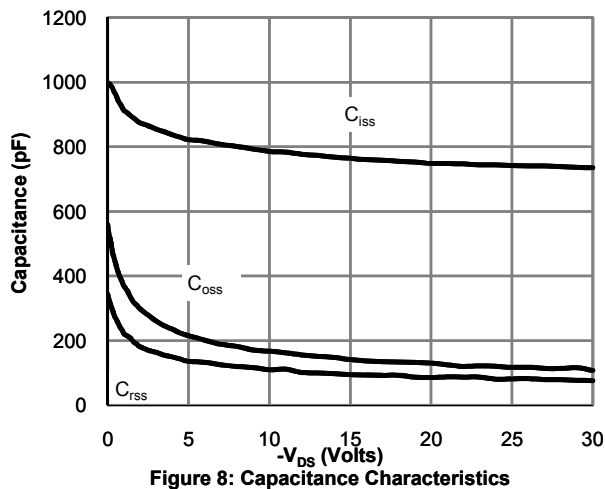
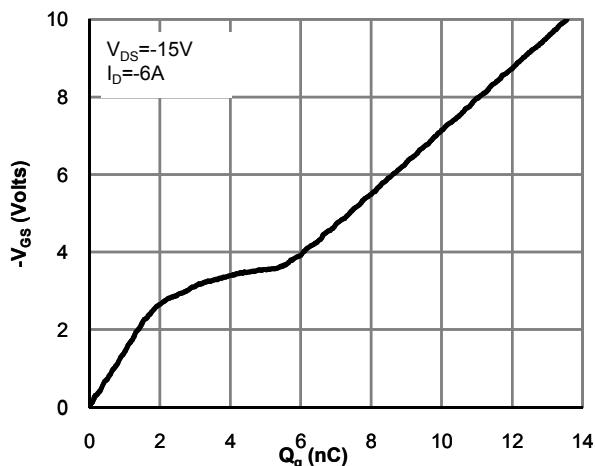


Figure 6: Body-Diode Characteristics (Note E)

Typical Characteristics



Ordering information

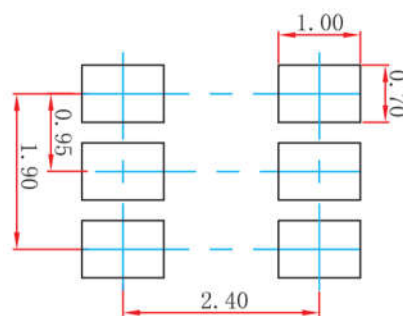
Package	Packing Description	Packing Quantity
SOT23-6L	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

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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