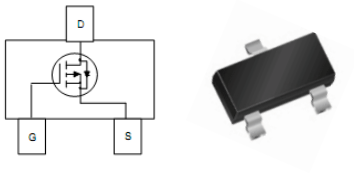
YENJI

IRLML6401

P-Channel Enhancement MOSFET

RoHS Device
Halogen Free

SOT-23



■ Features

- Ultra Low On-Resistance
- P-Channel MOSFET
- SOT-23 Footprint
- Low Profile (<1.1mm)
- Available in Tape and Reel
- Fast Switching

■ MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	BV_{DSS}	-12	V
Gate- Source Voltage	V_{GS}	±8	V
Drain Current (continuous)	I_D	-4.3	A
Drain Current (pulsed)	I_{DM}	-13	A
Total Device Dissipation T_A=25℃	P_D	1300	mW
Junction	T_J	150	℃
Storage Temperature	T_{stg}	-55to+150	℃

■ ELECTRICAL CHARACTERISTICS

(TA=25℃ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage (I_D = -250uA, V_{GS}=0V)	BV_{DSS}	-12	—	—	V
Gate Threshold Voltage (I_D = -250uA, V_{GS}= V_{DS})	$V_{GS(th)}$	-0.4	—	-0.95	V
Zero Gate Voltage Drain Current (V_{GS}=0V, V_{DS}= -12V) (V_{GS}=0V, V_{DS}= -9.6V, T_A=55℃)	I_{DSS}	—	—	-1 -25	uA
Gate Body Leakage (V_{GS}=±8V, V_{DS}=0V)	I_{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance (I_D= -4.3A, V_{GS}= -4.5V)	$R_{DS(ON)}$	—	—	50	mΩ
Static Drain-Source On-State Resistance (I_D= -2.5A, V_{GS}= -2.5V)	$R_{DS(ON)}$	—	—	85	mΩ
Static Drain-Source On-State Resistance (I_D= -2A, V_{GS}= -1.8V)	$R_{DS(ON)}$	—	—	125	mΩ
Input Capacitance (V_{GS}=0V, V_{DS}= -10V, f=1MHz)	C_{ISS}	—	830	—	pF
Output Capacitance (V_{GS}=0V, V_{DS}= -10V, f=1MHz)	C_{OSS}	—	180	—	pF
Turn-ON Time (V_{DS}= -6V, I_D= -1A, R_{GEN}=6Ω)	$t_{(on)}$	—	11	—	ns
Turn-OFF Time (V_{DS}= -6V, I_D= -1A, R_{GEN}=6Ω)	$t_{(off)}$	—	250	—	ns

Pulse Width≤300 μs; Duty Cycle≤2.0%

■ TYPICAL CHARACTERICTICS

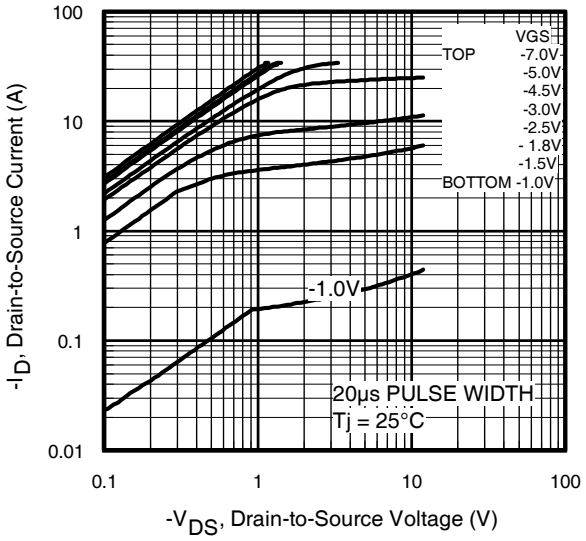


Fig 1. Typical Output Characteristics

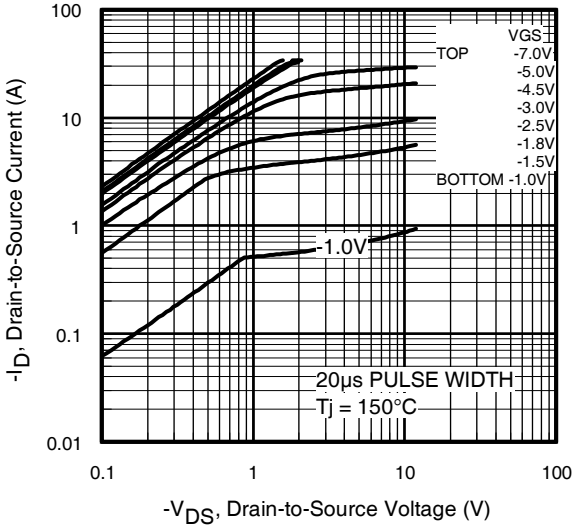


Fig 2. Typical Output Characteristics

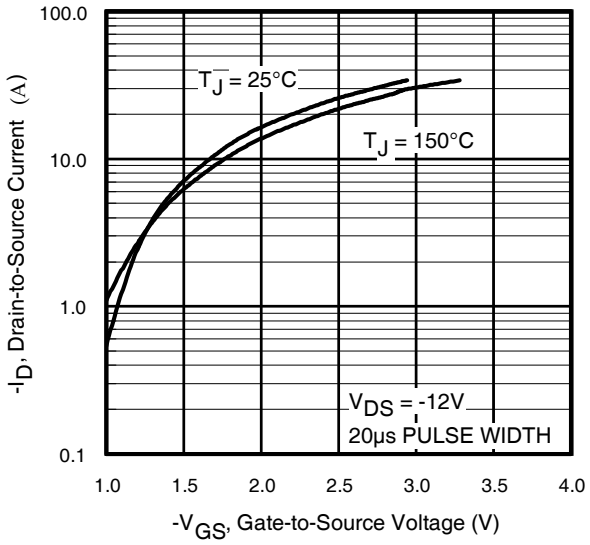


Fig 3. Typical Transfer Characteristics

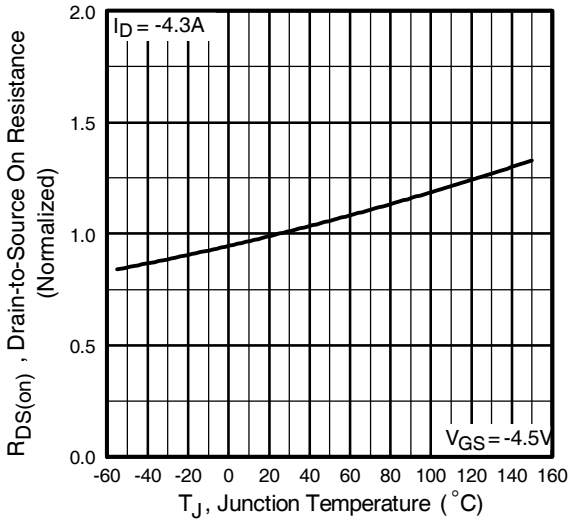


Fig 4. Normalized On-Resistance Vs. Temperature

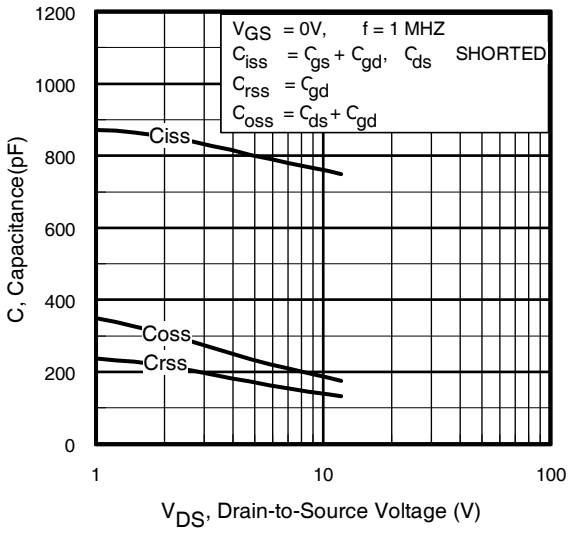


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

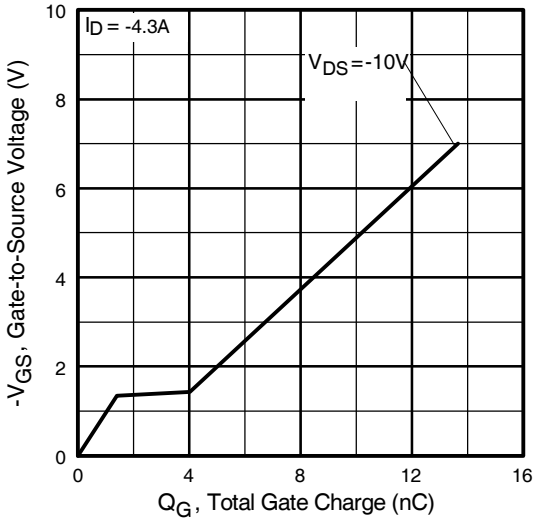


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

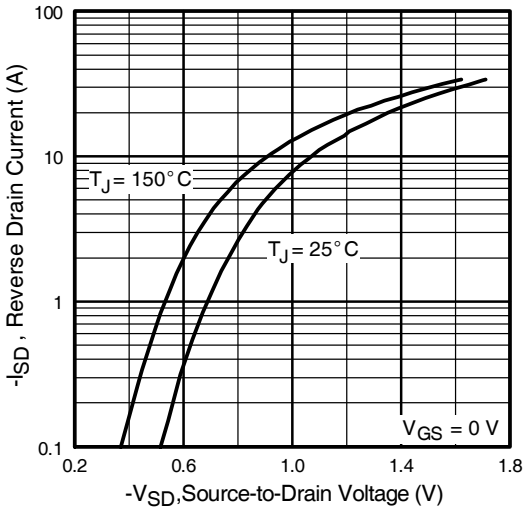


Fig 7. Typical Source-Drain Diode Forward Voltage

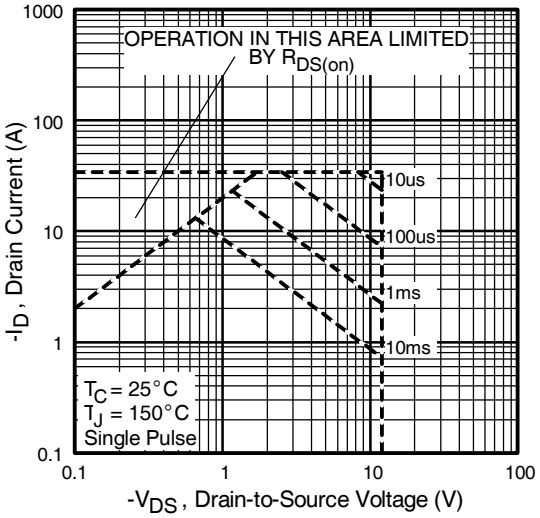
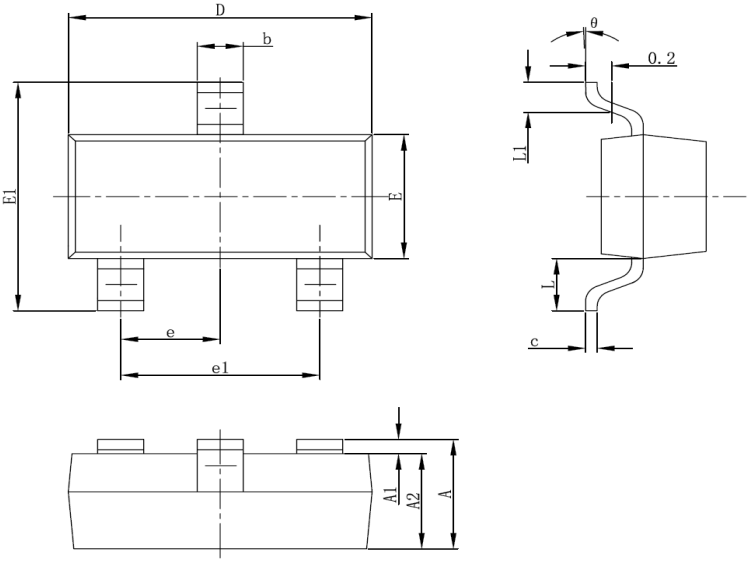


Fig 8. Maximum Safe Operating Area

■ SOT-23 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°