

## isc P-Channel MOSFET Transistor

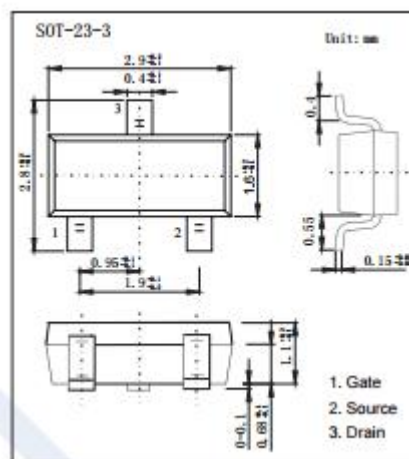
IRLML6402

## DESCRIPTION

- Ultra low on-resistance
- P-Channel MOSFET
- SOT-23 Footprint
- Available in tape and reel
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- High speed switching application
- Switching regulator ,DC-DC converter and Motor drive application

ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	-20	V
$V_{GS}$	Gate-Source Voltage	$\pm 12$	V
$I_D$	Drain Current-continuous@ $T_C=37^{\circ}\text{C}$	-3.7	A
$I_{DM}$	Drain Current Pulse	-30	A
$P_{tot}$	Total Dissipation@ $T_A=25^{\circ}\text{C}$	1.3	W
	Total Dissipation@ $T_A=75^{\circ}\text{C}$	0.8	W
$T_j$	Max. Operating Junction Temperature	-55~150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^{\circ}\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	100	$^{\circ}\text{C}/\text{W}$

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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = -0.25mA	-20		V
V <sub>GS(TH)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = -0.25mA	-0.4	-0.95	V
R <sub>DS(ON)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> = -4.5V; I <sub>D</sub> = -3.7A		0.065	Ω
		V <sub>GS</sub> = -2.5V; I <sub>D</sub> = -3.1A		0.135	Ω
I <sub>GSS</sub>	Gate Source Leakage Current	V <sub>GS</sub> = ±12V; V <sub>DS</sub> = 0		±100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0		-1	uA
		V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0, T <sub>J</sub> =70°C		-25	uA
V <sub>SD</sub>	Diode Forward Voltage	I <sub>F</sub> =-2 A; V <sub>GS</sub> = 0, T <sub>J</sub> =25°C		-1.2	V

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