

Features

- TrenchFET Power MOSFET
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

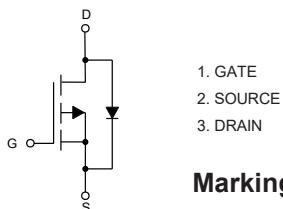
P-Channel MOSFET

Maximum Ratings

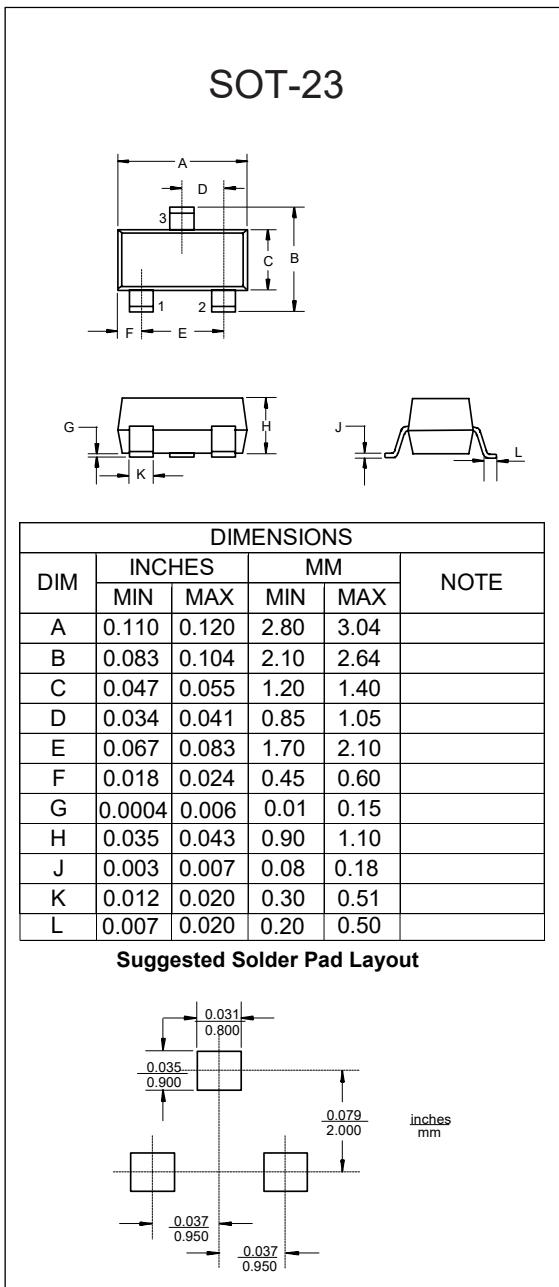
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 162°C/W Junction to Ambient^(2,3)

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-100	V
Gate -Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ^(2,3)	I_D	-1	A
Continuous Source-Drain Diode Current	I_S	-1	A
Power Dissipation	P_D	0.77	W

Internal Structure



Marking:0101



MOSFET ELECTRICAL CHARACTERISTICS($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$, $I_D = -250\mu\text{A}$	-100			V
Zero gate voltage drain current	I_{DSS}	$V_{\text{DS}} = -100\text{V}$, $V_{\text{GS}} = 0\text{V}$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{\text{GS}} = \pm 20\text{V}$, $V_{\text{DS}} = 0\text{V}$			± 100	nA
On Characteristics⁽⁴⁾						
Gate threshold voltage	$V_{\text{GS}(\text{th})}$	$V_{\text{DS}} = V_{\text{GS}}$, $I_D = -250\mu\text{A}$	-1.5	-2.2	-3.0	V
Drain-source on-resistance	$R_{\text{DS}(\text{on})}$	$V_{\text{GS}} = -10\text{V}$, $I_D = -1.0\text{A}$		580	800	$\text{m}\Omega$
		$V_{\text{GS}} = -4.5\text{V}$, $I_D = -0.5\text{A}$		650	1000	
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{\text{DS}} = -40\text{V}$, $V_{\text{GS}} = 0\text{V}$, $f = 1\text{MHz}$		388		pF
Output Capacitance	C_{oss}			19		
Reverse Transfer Capacitance	C_{rss}			15		
Switching Characteristics						
Total Gate Charge	Q_g	$V_{\text{DS}} = -10\text{V}$, $V_{\text{GS}} = -10\text{V}$, $I_D = -1\text{A}$		3.2		nC
Gate-Source Charge	Q_{gs}			0.5		
Gate-Drain Charge	Q_{gd}			1.1		
Turn-on delay time	$t_{\text{d}(\text{on})}$	$V_{\text{DD}} = -10\text{V}$, $V_G = -10\text{V}$, $I_D = -1\text{A}$ $R_G = 2.5\Omega$		10		ns
Turn-on rise time	t_r			32		
Turn-off delay time	$t_{\text{d}(\text{off})}$			28		
Turn-off fall time	t_f			9		
Diode Characteristics						
Diode forward current	I_s	$T_A = 25^\circ\text{C}$			-1	A
Diode pulsed forward current	I_{SM}				-4	A
Diode Forward voltage	V_{DS}	$V_{\text{GS}} = 0\text{V}$, $I_s = -1\text{A}$			-1.2	V

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

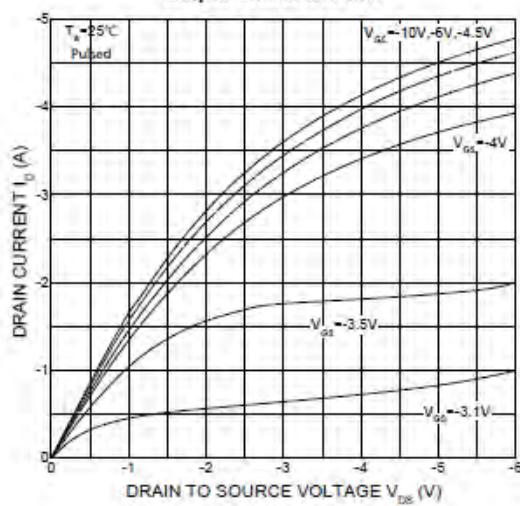
2. $R_{\theta\text{JA}}$ is measured with the device mounted on 1 in² FR4 board with 1oz. single side copper, in a still air environment with $T_A = 25^\circ\text{C}$.

3. $R_{\theta\text{JA}}$ is measured in the steady state

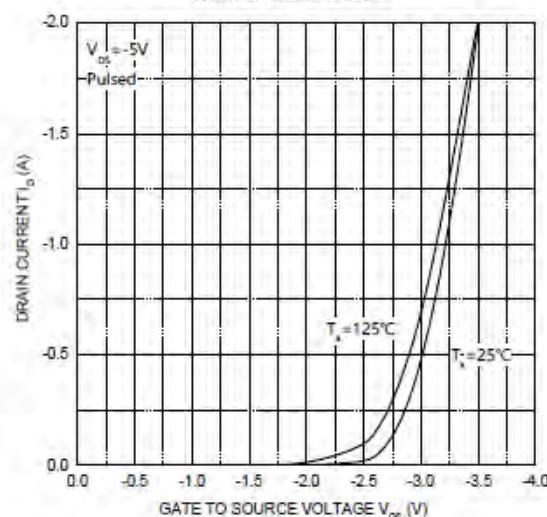
4. Pulse test : Pulse width $\leq 380\mu\text{s}$, duty cycle $\leq 2\%$.

Curve Characteristics

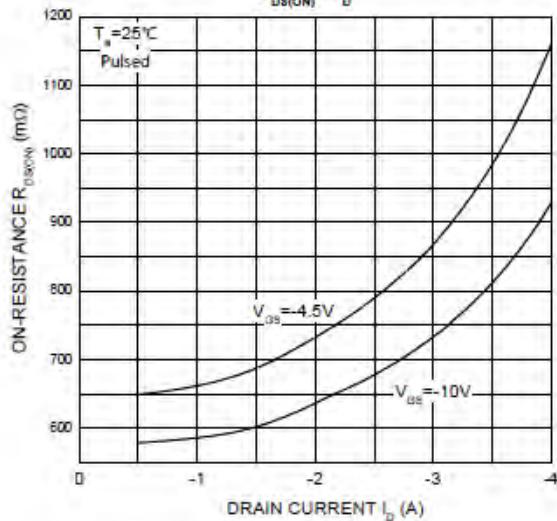
Output Characteristics



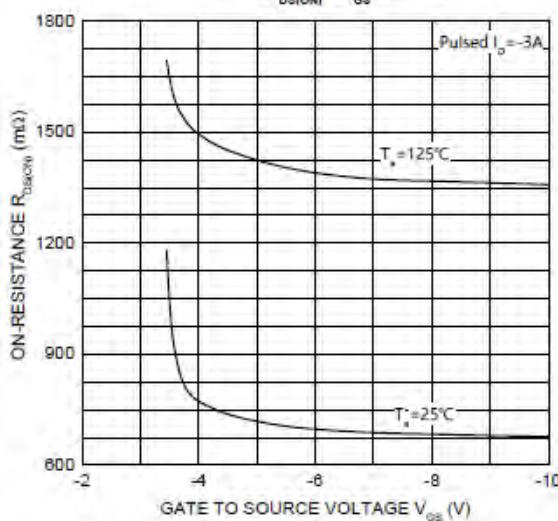
Transfer Characteristics



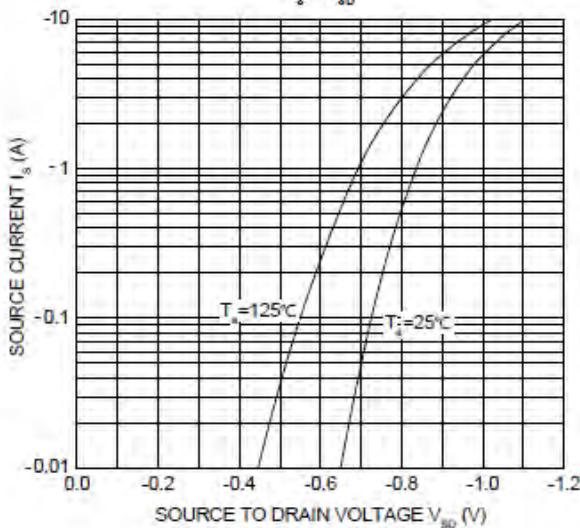
$R_{DS(ON)} - I_D$



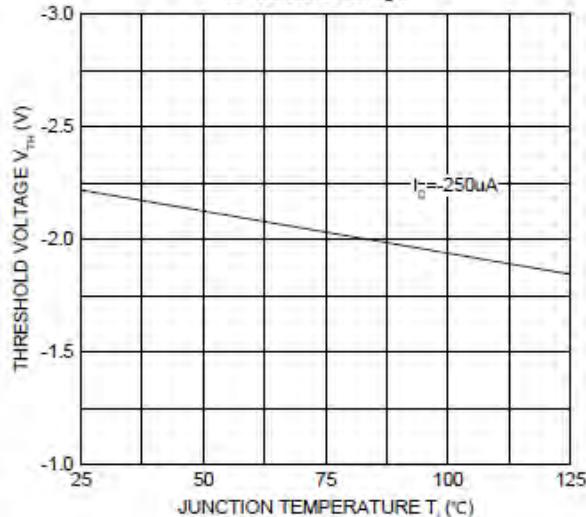
$R_{DS(ON)} - V_{GS}$



$I_S - V_{SD}$



Threshold Voltage



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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