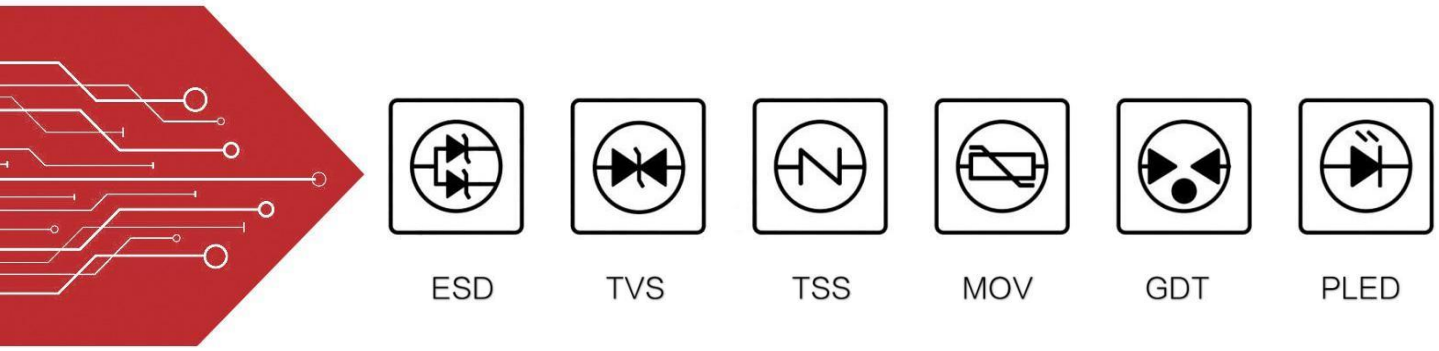
MSKSEMI
SEMICONDUCTOR

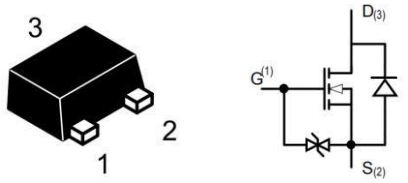


Product data sheet

MOSFET Product Summary

V_{DS}	I_D	$R_{DS(on)}$
20V	0.8A	<350mΩ@4.5V
		<420mΩ@2.5V

Schematic & Pin configuration



Features and benefits

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low RDS(on)
- Operated at Low Logic Level Gate Drive

Applications

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Maximum Ratings (T_A = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±8	V
Continuous Drain Current (note1)	I_D	0.8	A
Pulsed Drain Current (tp=10-s)	I_{DM}	1.8	A
Power Dissipation (note1)	P_D	0.15	W
Thermal Resistance from Junction to Ambient (note1)	$R_{\theta JA}$	850	°C/W
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	-50 to +150	°C
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)	T_L	260	°C

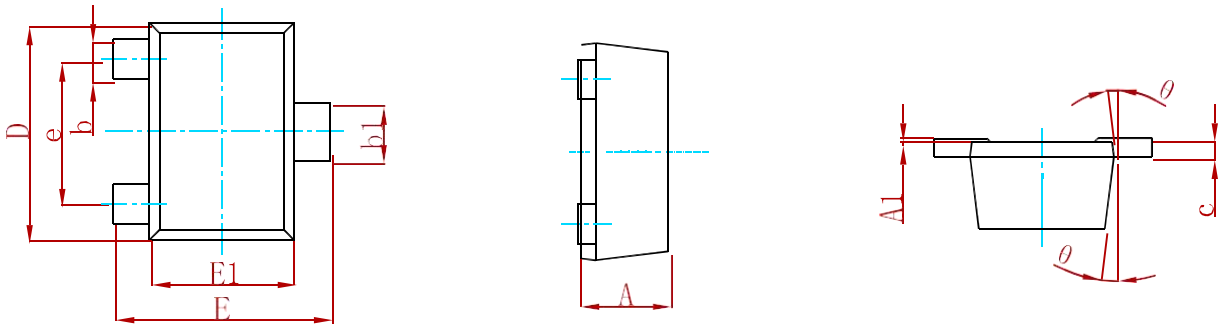
Electrical Characteristics (T_A = 25 °C, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
STATIC CHARACTERISTICE						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±8V, V_{DS} = 0V			±10	μA
Gate threshold voltage (note2)	$V_{GS(th)}$	V_{DS} =VGS, I_D =250μA	0.5	0.7	1.0	V
Drain-source on-resistance (note2)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =0.5A			0.35	Ω
		V_{GS} =2.5V, I_D =0.5A			0.42	Ω
Maximum Continuous Drain to Source Diode Forward Current	I_S	--			0.8	A
Maximum Pulsed Drain to Source Diode Forward Current	I_{SM}	--			1.2	A
Diode forward voltage	V_{SD}	I_S=0.5A, V_{GS} =0V			1.2	V
DYNAMIC CHARACTERISTICS (note4)						
Input capacitance	C_{iss}	V_{DS} =16V,V_{GS} =0V, f =1MHz			120	pF
Output capacitance	C_{oss}				20	pF
Reverse transfer capacitance	C_{rss}				15	pF
SWITCHING CHARACTERISTICS (note4)						
Turn-on delay time (note3)	$t_{d(on)}$	V_{GS}=4.5V,V_{DS}=10V, I_D=500mA,R_{GEN}=10Ω		8		nS
Turn-on rise time (note3)	t_r			5		nS
Turn-off delay time (note3)	$t_{d(off)}$			20		nS
Turn-off fall time (note3)	t_f			10		nS

Notes:

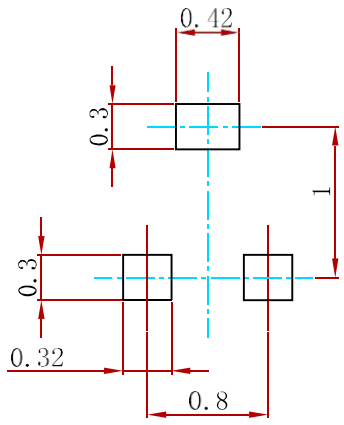
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producting.

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
MS3134	SOT-723	8000

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