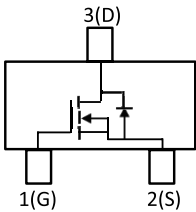


N Channel Enhancement Mode Field Effect Transistor

multicomp^{PRO}

RoHS
Compliant

Device Schematic & PIN Configuration



Pin Assignment		
1	G	Gate
2	S	Source
3	D	Drain

Features

- Trench Power LV MOSFET Technology
- High Power and Current Handling Capability

Applications

- PWM Application
- Load Switch for Devices

Maximum Ratings @TA = +25°C

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±10	V
Drain Current	I _D	2	A
Pulsed Drain Current (1)	I _{DM}	14	A
Power Dissipation	P _D	0.7	W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C
Thermal Resistance Junction to Ambient (2)	R _{θJA}	178	°C/W

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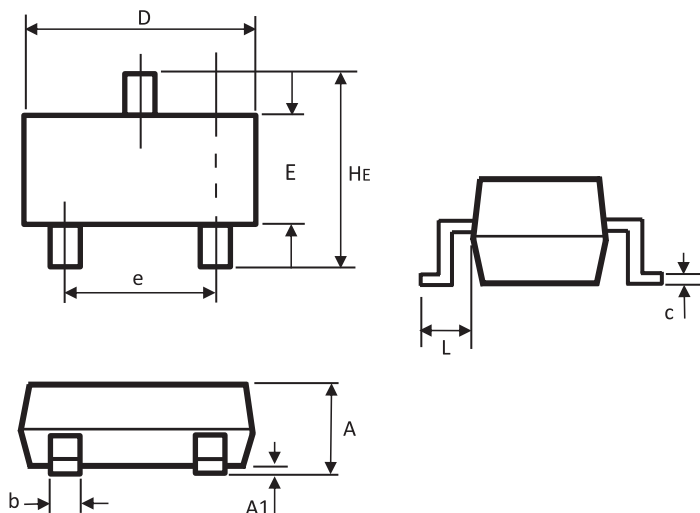
Electrical Characteristics @TA = +25°C

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	20	--	--	V
Gate-Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{th(GS)}$	0.45	0.75	1.1	
Gate-Body Leakage Current	$V_{DS}=0V, V_{GS}=\pm 10V$	I_{GSS}	--	--	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS}=20V, V_{GS}=0V$	I_{DSS}			1	μA
Body-Diode Continuous Current		I_S			2	A
Static Drain-Source On-Resistance	$V_{GS}=4.5V, I_D=1A$	$R_{DS(ON)}$		85	130	m Ω
	$V_{GS}=2.5V, I_D=0.5A$			110	160	
Diode Forward Voltage	$I_S=2A, V_{GS}=0V$	V_{SD}		--	1.2	V
Input Capacitance	$V_{DS}=15V, V_{GS}=0V, F=1MHz$	C_{iss}		21	--	pF
Output Capacitance		C_{oss}		15		
Reverse Transfer Capacitance		C_{rss}		8		
Total Gate Charge	$V_{GS}=10V, V_{DS}=25V, I_D=1.6A$	Q_g		6.7		nC
Gate Source Charge		Q_{gs}		1.2		
Gate Drain Charge		Q_{gd}		0.9		
Turn-on Delay Time	$V_{GEN}=10V, V_{DD}=10V, R_L=3\Omega, R_{GEN}=10\Omega$	$t_{d(ON)}$		120	--	ns
Turn-on Rise Time		t_R		317		
Turn-off Delay Time		$t_{d(Off)}$		748		
Turn-off Fall Time		t_F		716		
Notes: 1.Pulse Test : Pulse Width $\leq 300\mu s$,Duty cycle $\leq 2\%$ 2.Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.						

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Outline Dimensions



SOT23 Package		
Dim	Min	Max
A	0.9	1.15
A1	0	0.1
b	0.3	0.5
c	0.1	0.2
D	2.8	3
E	1.2	1.4
e	1.8	2
L	0.55 REF	
HE	2.25	2.55

Dimensions : Millimetres

Part Number Table

Description	Part Number
N Channel Enhancement Mode FET, 20V, 2A, SOT-23	HMT02N02S

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