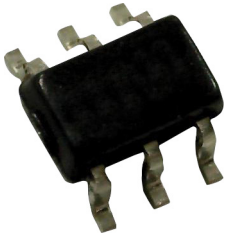


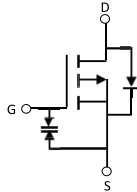
P Channel Enhancement Mode Field Effect Transistor

multicompPRO

RoHS
Compliant



Schematic Diagram



Pin Assignment		
1	G	Gate
2	S	Source
3	D	Drain

Applications

- PWM Applications
- Power Management
- Load Switch for Portable Devices

Features

- Advanced Trench Technology
- Lead Free Product is Acquired
- ESD Rating : HBM 2.0KV
- Excellent $R_{DS(ON)}$ and Low Gate Charge

Maximum Ratings @TA = +25°C

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	-4.1	A
Pulsed Drain Current (Note1.)	I_{DM}	-16.4	A
Power Dissipation	P_D	1.1	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	114	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

P Channel Enhancement Mode Field Effect Transistor **multicomp** PRO

Electrical Characteristics @TA = +25°CZ

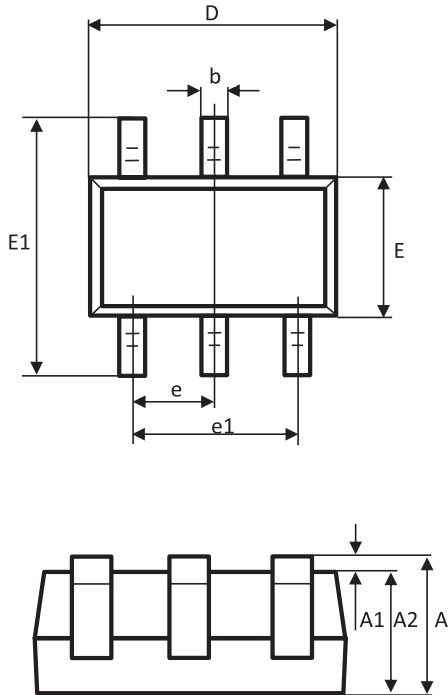
Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit	
Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = -250\mu A$	V_{DSS}	-20	--	--	V	
Gate-Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\mu A$	$V_{th(GS)}$	-0.4	-0.7	-1		
Gate-Body Leakage Current	$V_{DS} = 0V, V_{GS} = \pm 10V$	I_{GSS}	--	--	± 10	nA	
Zero Gate Voltage Drain Current	$V_{DS} = 20V, V_{GS} = 0V$	I_{DSS}			-1	μA	
Drain-Source On-Resistance (Note2.)	$V_{GS} = 4.5V, I_D = -4A$	$R_{DS(ON)}$		30	39	m Ω	
	$V_{GS} = 2.5V, I_D = 3A$			40	56		
Diode Forward Voltage	$I_S = -4.1A, V_{GS} = 0V$	V_{SD}		--	--	-1.2	V
Continuous Diode Forward Voltage		I_S		--	--	-4.1	
Input Capacitance	$V_{DS} = -10V, V_{GS} = 0V, F = 1MHz$	C_{iss}		--	289	--	pF
Output Capacitance		C_{oss}			98		
Reverse Transfer Capacitance		C_{rss}			22		
Total Gate Charge	Q_g	9			nC		
Gate Source Charge	Q_{gs}	1					
Gate-Drain ("Miller" Charge)	Q_{gd}	2.6					
Turn-on Delay Time	$V_{DD} = -10V, R_G = 1\Omega, V_{GEN} = -4.5V, R_L = 1.2\Omega,$	$t_{d(ON)}$	12		ns		
Turn-on Rise Time		t_R	35				
Turn-off Delay Time		$t_{d(OFF)}$	30				
Turn-off Fall Time		t_F	10				

Notes: 1.Repetitive Rating : Pulse Width Limited by Maximum Junction Temperature.
2.Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

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Outline Dimensions



SOT-23-6L Package		
Dim	Min	Max
A	--	1.2
A1	0	0.1
A2	1	1.2
b	0.3	0.5
c	0.119	0.135
D	2.8	3
E	1.5	1.7
E1	2.6	3
e	0.95 typ	
e1	1.8	2
L	0.3	0.6

Dimensions : Millimetres

Part Number Table

Description	Part Number
P Channel Enhancement Mode FET, 20V, -4.1A, SOT-23-6L	HMV4P1P02S

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