

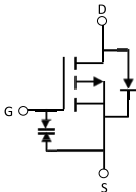
P Channel Enhancement Mode Field Effect Transistor

multicomp^{PRO}

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 _{θJA}	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}

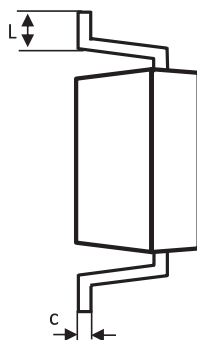
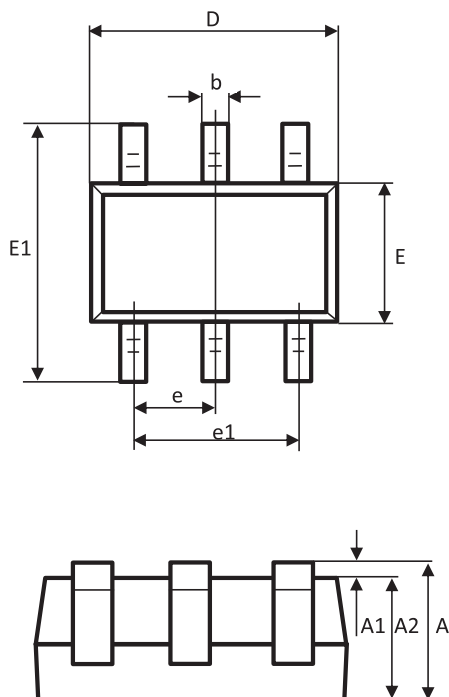
Electrical Characteristics @TA = +25°CZ

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	$V_{DS} = 10V, I_D = 4.1A, V_{GS} = 4.5V$	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 Cycles $\leq 2\%$.						

P Channel Enhancement Mode Field Effect Transistor

multicompPRO

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

Important Notice : This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

multicompPRO