重庆平伟实业股份有限公司
CHONGQING PINGWEI ENTERPRISE CO.,LTD

BSS84K

50V P-Channel MOSFET

-0.13A -50V；$R_{DS(ON)typ}$=2.7Ω@-5V，$R_{DS(ON)typ}$=2.3Ω@-10V.

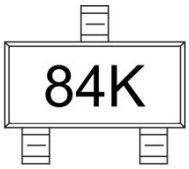
FEATURE

- Trench Technology MOSFET
- Low Gate Charge

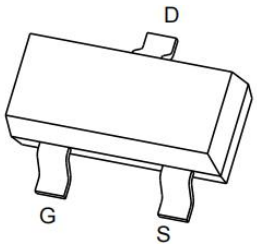
Application

- Load Switch for Portable Devices
- DC/DC Converter

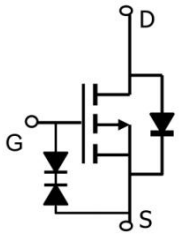
MARKING:



SOT-23



Schematic diagram



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current[1] (T_A= 25℃)	I_D	-0.13	A
Pulsed Drain Current[2]	I_{DM}	-1.2	A
Power Dissipation[4] (T_A = 25℃)	P_D	300	mW
Thermal Resistance from Junction to Ambient[5]	$R_{\theta JA}$	417	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

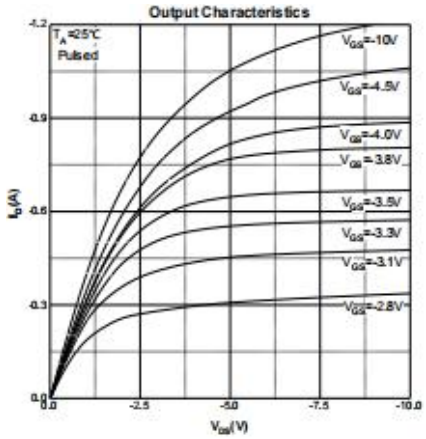
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

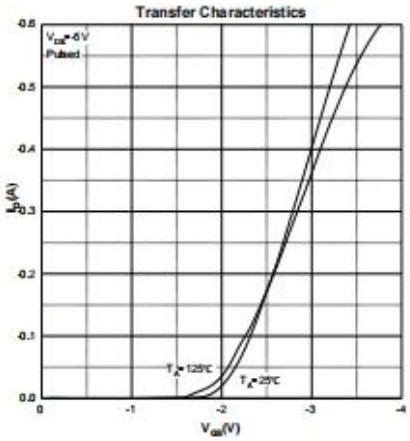
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
OFF CHARACTERISTCS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} = -50V, V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	nA
ON CHARACTERISTCS[3]						
Gate threshold voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-0.9	-1.6	-2.0	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -0.1A		2.3	6	Ω
		V_{GS} = -4.5V, I_D = -0.1A		2.7	7	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	V_{DS} = -25V, V_{GS} = 0V, f = 1MHz		30.4		pF
Output Capacitance	C_{oss}			7.51		
Reverse Transfer Capacitance	C_{rss}			4.22		
Gate Resistance	Rg	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz		165		Ω
SWITCHING CHARACTERISTCS						
Total Gate Charge	Qg	V_{DS} = -10V, V_{GS} = -10V, I_D = -0.1A		0.59		nC
Gate-Source Charge	Qgs			0.12		
Gate-Drain Charge	Qgd			0.09		
Turn-on delay time	$t_{d(on)}$	V_{DD} = -30V, V_{GS} = -10V, R_L = 110Ω, R_G = 50Ω		10		nS
Turn-on rise time	t_r			5.5		
Turn-off delay time	$t_{d(off)}$			17.5		
Turn-off fall time	t_f			6		
SOURCE-DRAIN DIODE CHARACTERISTCS						
Diode Forward voltage[3]	V_{SD}	V_{GS} = 0V, I_S = -0.1A			-1.2	V

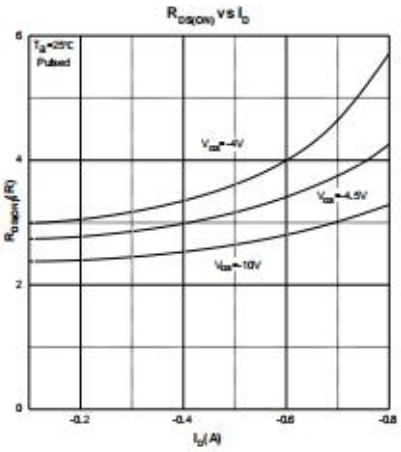
Notes :

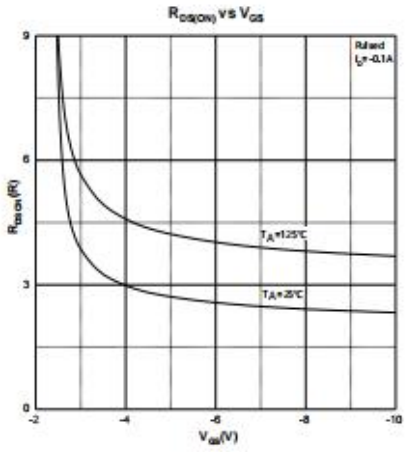
1. The maximum current rating is limited by Chip.
2. Pulse Test : Pulse Width ≤ 10 μ s, duty cycle ≤ 1%.
3. Pulse Test : Pulse Width ≤ 300 μ s, duty cycle ≤ 2%.
4. The power dissipation PD is limited by TJ(MAX) = 150° C.
5. Device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with TA =25° C.

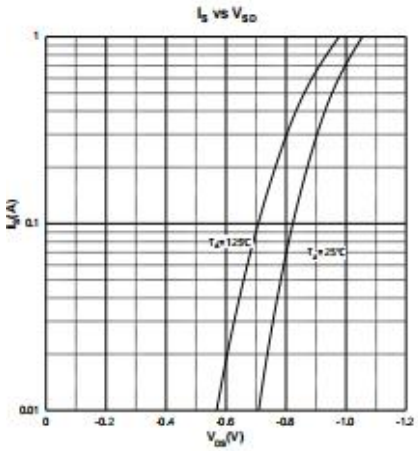
Typical Electrical and Thermal Characteristics

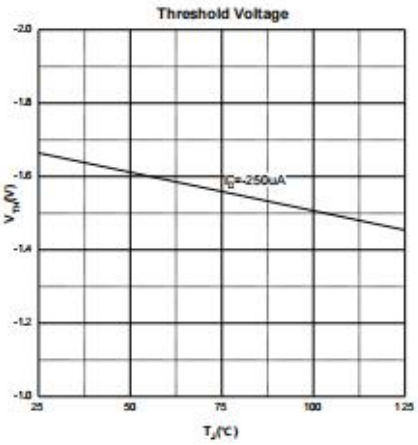




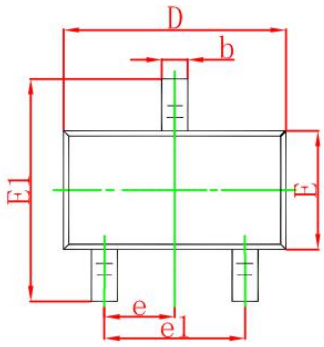


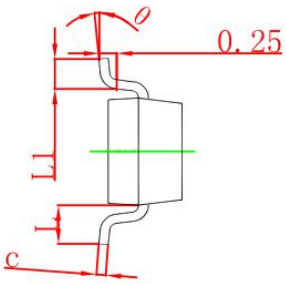


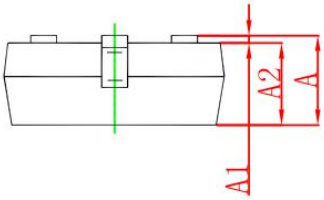




SOT-23 Package Information







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°