

VDS= -60V

RDS(ON), Vgs@-10V, Ids@-0.5A < 6Ω

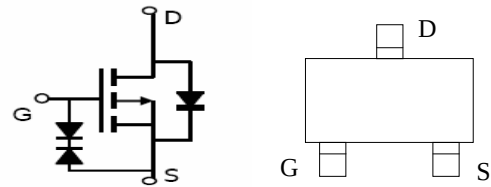
RDS(ON), Vgs@-5, Ids@-0.2A < 7Ω

Features

Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance

ESD Rating: HBM 2000V

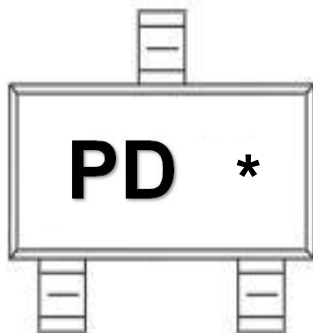


SOT-23

Order Information

Product	Package	Packing
BSS84	SOT-23	3000PCS/Reel

MARKING:



PD = Device Code

= Date Code

Maximum Ratings and Thermal Characteristics (TA = 25oC unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current	I _D	-0.13	A
Pulsed Drain Current ¹⁾	I _{DM}	-0.52	
Maximum Power Dissipation	P _D	0.225	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted) ²⁾	R _{thJA}	556	°C/W

Notes

¹⁾ Pulse width limited by maximum junction temperature.

²⁾ Surface Mounted on FR4 Board, t ≤

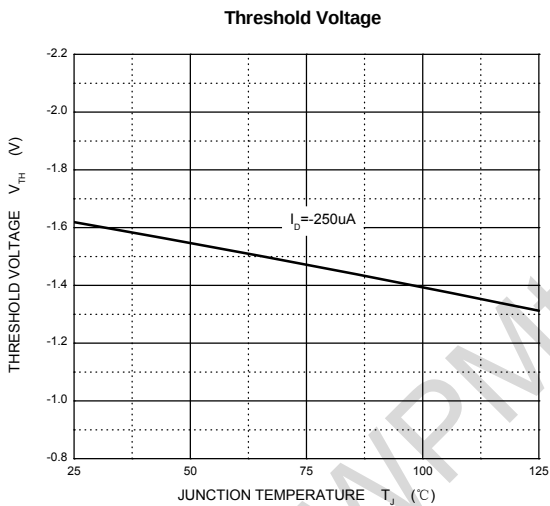
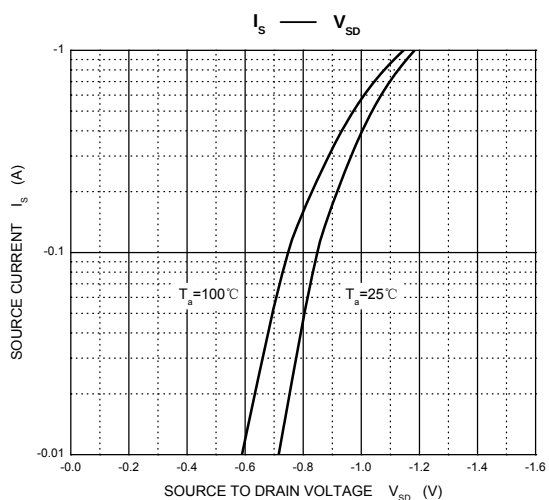
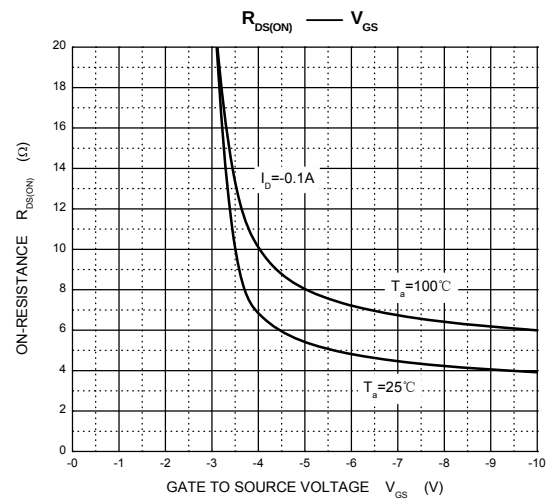
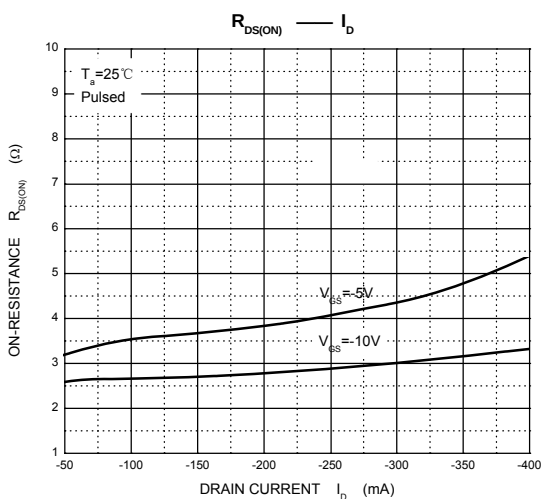
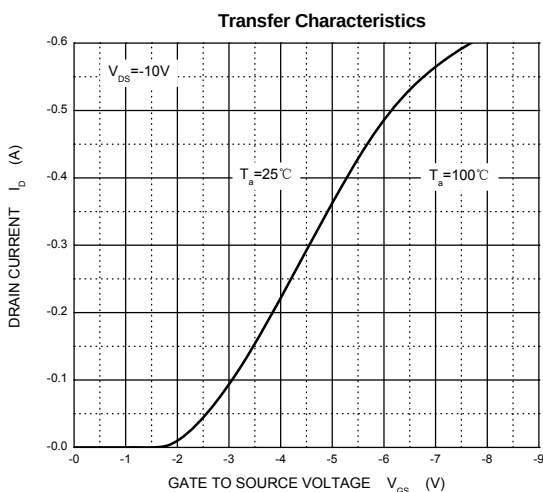
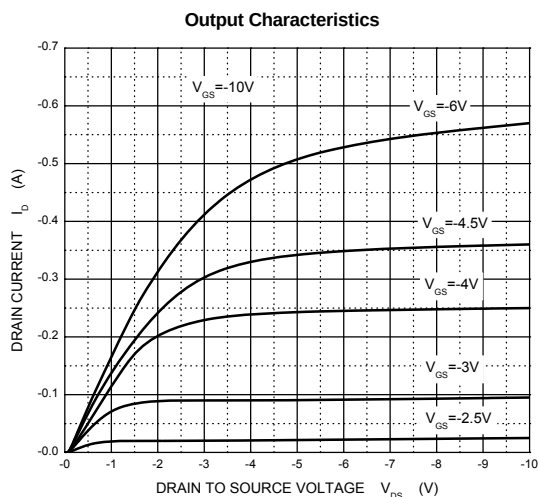
ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = -250uA	-60			V
Drain-Source On-State Resistance ¹⁾	R _{DS(on)}	V _{GS} = -10V, I _D = -0.5A		2.1	6	Ω
		V _{GS} = -5V, I _D = -0.2A		2.5	7	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D = -250uA	-0.8		-2	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -50V, V _{GS} = 0V			-1	uA
Gate Body Leakage	I _{GSS}	V _{GS} = ± 20V, V _{DS} = 0V			±10	uA
Forward Transconductance ¹⁾	g _{fs}	V _{DS} = -25V, I _D = -100mA		50		mS
Dynamic						
Total Gate Charge	Q _g	V _{DS} = -40V, I _D = -0.1A V _{GS} = -4.5V		2.3		nC
Gate-Source Charge	Q _{gs}			2.4		
Gate-Drain Charge	Q _{gd}			0.7		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15V, RL=6Ω I _D = -0.25A, V _{GEN} = -15V R _G = 50Ω		13.7		ns
Turn-On Rise Time	t _r			6.2		
Turn-Off Delay Time	t _{d(off)}			15.9		
Turn-Off Fall Time	t _f			2.8		
Input Capacitance	C _{iss}	V _{DS} = -5V, V _{GS} = 0V f = 1.0 MHz		41.7		pF
Output Capacitance	C _{oss}			19.3		
Reverse Transfer Capacitance	C _{rss}			4		
Source-Drain Diode						
Diode Forward Voltage	V _{SD}	I _S = -0.5A, V _{GS} = 0V			-1.3	V

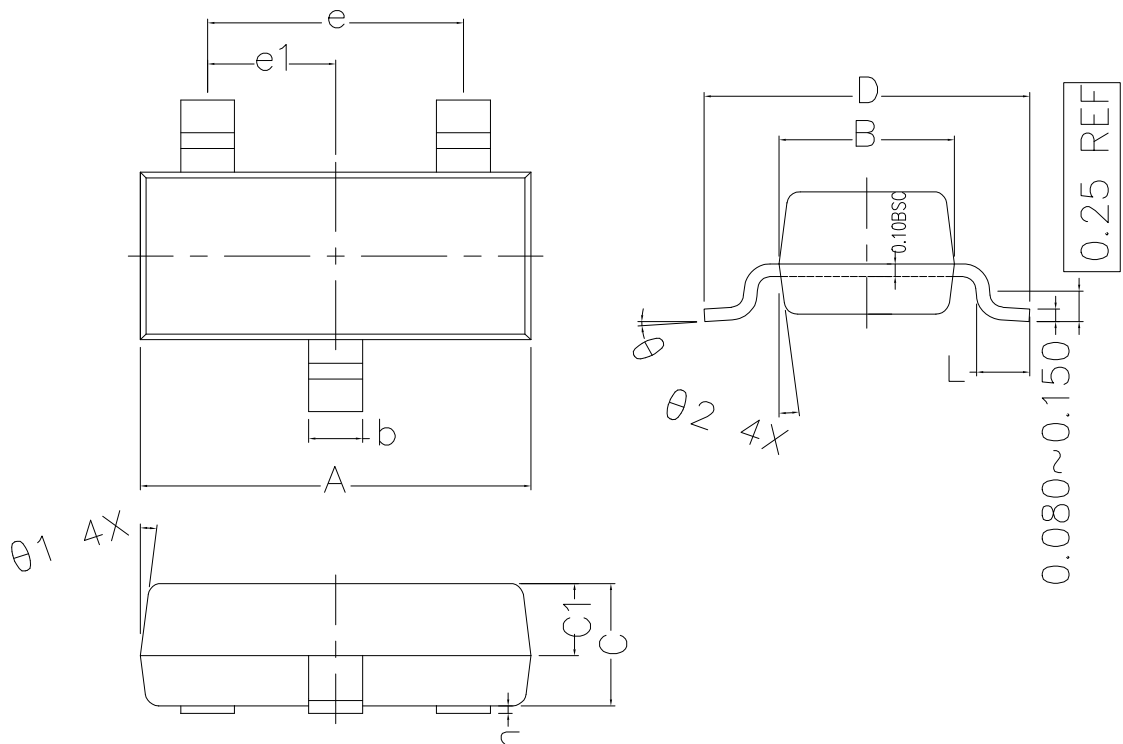
¹⁾ Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

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Typical Characteristics



SOT-23 Package Outline Dimensions (Units: mm)



COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	2.800	2.900	3.000
B	1.200	1.300	1.400
C	0.900	1.000	1.100
C1	0.500	0.550	0.600
D	2.250	2.400	2.550
L	0.300	0.400	0.500
h	0.010	0.050	0.100
b	0.300	0.400	0.500
e	1.90 TYPE		
e1	0.95 TYPE		
θ ₁	7° TYPE		
θ ₂	7° TYPE		
θ	0° ~ 7°		

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