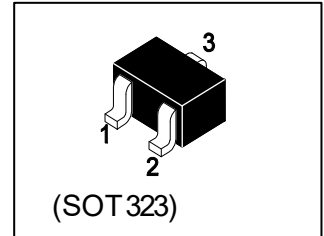
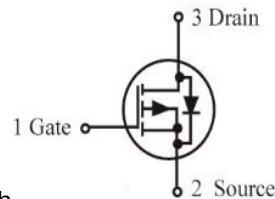


PRIMARY CHARACTERISTICS

BV _{DSS}	R _{DS(on)} MAX	I _D
-50V	5 Ω @V _{GS} =10V	-0.13A
	6 Ω @V _{GS} = 5 V	

SCHEMATIC DIAGRAM
SOT- 323 PACKAGE



FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- Energy efficient

MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	-50	V
Gate–to–Source Voltage – Continuous	VGS	±20	V
Drain Current			mA
– Continuous TA = 25°C	ID	-130	
– Pulsed (tp ≤ 10μs)	IDM	-520	

THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 1) @ TA = 25°C	PD	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction–to–Ambient(Note 1)	RθJA	556	°C/W
Junction and Storage temperature	TJ,Tstg	-55~+150	°C
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	TL	260	°C

1. FR-5 = 1.0×0.75×0.062 in.

ELECTRICAL CHARACTERISTICS (Ta= 25 °C)
OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-50	-	-	V
Zero Gate Voltage Drain Current (VGS = 0, VDS = -25 V) (VGS = 0, VDS = -50 V) (VGS = 0, VDS = -50 V, TJ=125°C)	IDSS	-	-	-0.1 -15 -60	μA
Gate–Body Leakage Current, Forward (VGS = 20 V)	IGSSF	-	-	10	μA
Gate–Body Leakage Current, Reverse (VGS = - 20 V)	IGSSR	-	-	-10	μA

ON CHARACTERISTICS (Note 2)

Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-0.8	-	-2	V
Static Drain–Source On–State Resistance (VGS = -5.0 V, ID = -100 mA) (VGS = -10 V, ID = -100 mA)	RDS(on)	-	2 1.8	6 5	Ω
Transfer Admittance (VDS = -25 V, ID = -100 mA, f = 1.0 kHz)	yfs	50	-	-	mS

DYNAMIC CHARACTERISTICS

Input Capacitance (VDS = - 15V, VGS=0V, f=1MHz)	Ciss	-	38	-	pF
Output Capacitance (VDS = - 15V, VGS=0V, f=1MHz)	Coss	-	4.8	-	pF
Reverse Transfer Capacitance (VDS = - 15V, VGS=0V, f=1MHz)	Crss	-	2.7	-	pF
Total Gate Charge	(VDS =-10V, VGS =-4.5V, ID =-250mA)	Qg	-	320	pC
Gate-Source Charge		Qgs	-	50	
Gate-Drain Charge		Qgd	-	180	

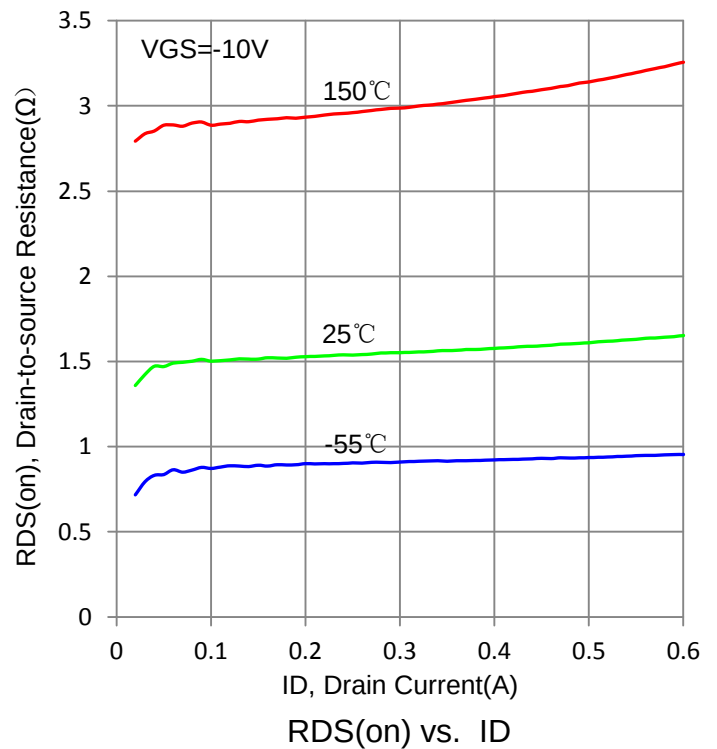
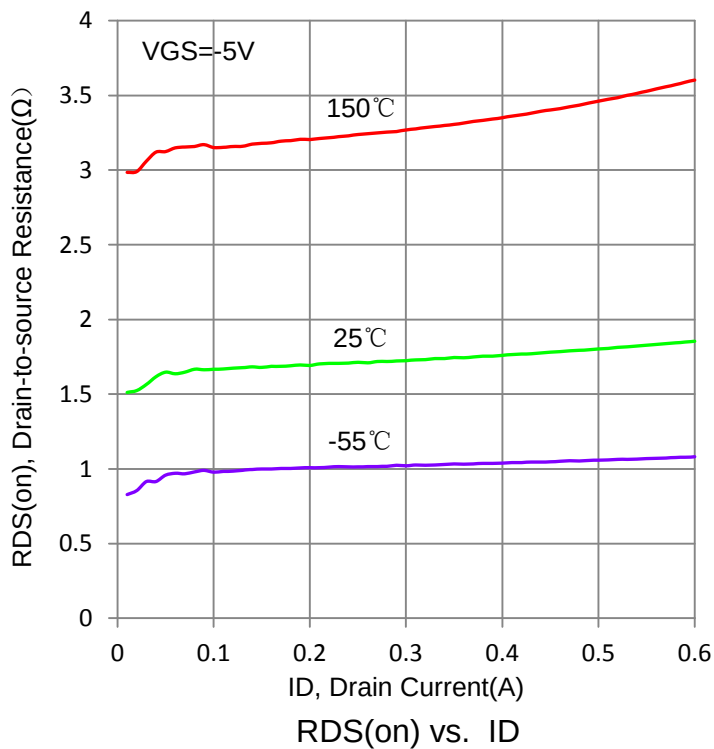
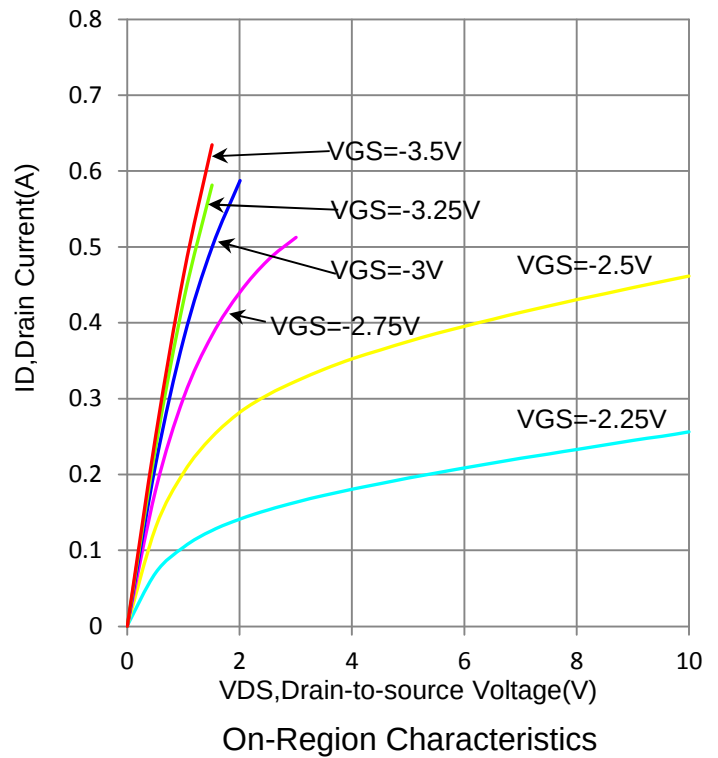
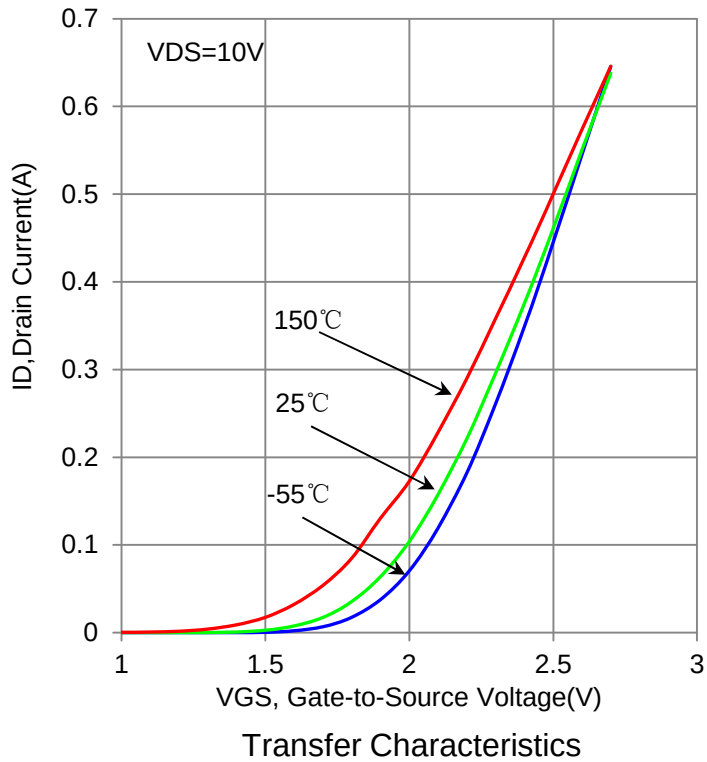
SWITCHING CHARACTERISTICS

Turn-On Delay Time	(VDS = -15 V, VGS=-10V , RL = 50Ω, RG=25Ω)	td(on)	-	16.7	-	ns
Rise Time		tr	-	8.6	-	
Turn-Off Delay Time		td(off)	-	17.9	-	
Fall Time		tf	-	5.3	-	

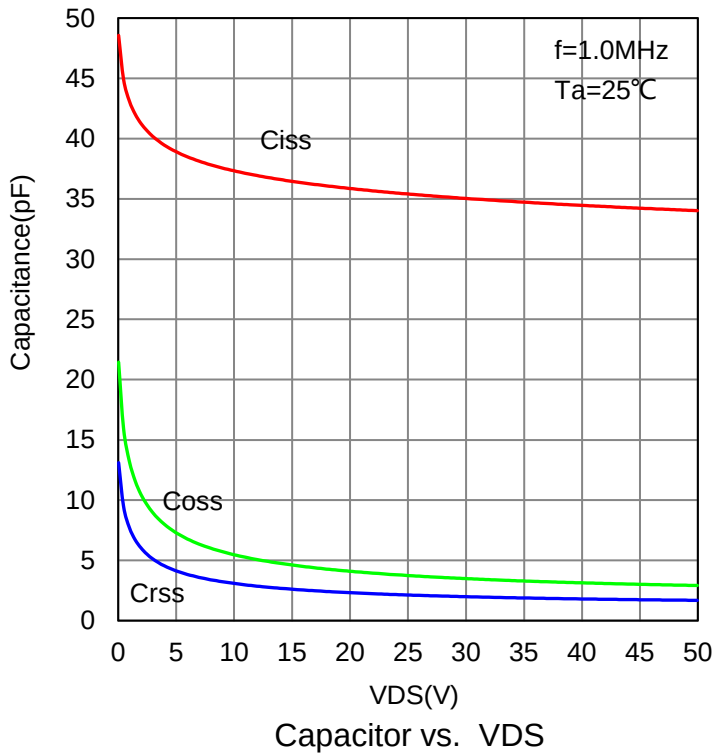
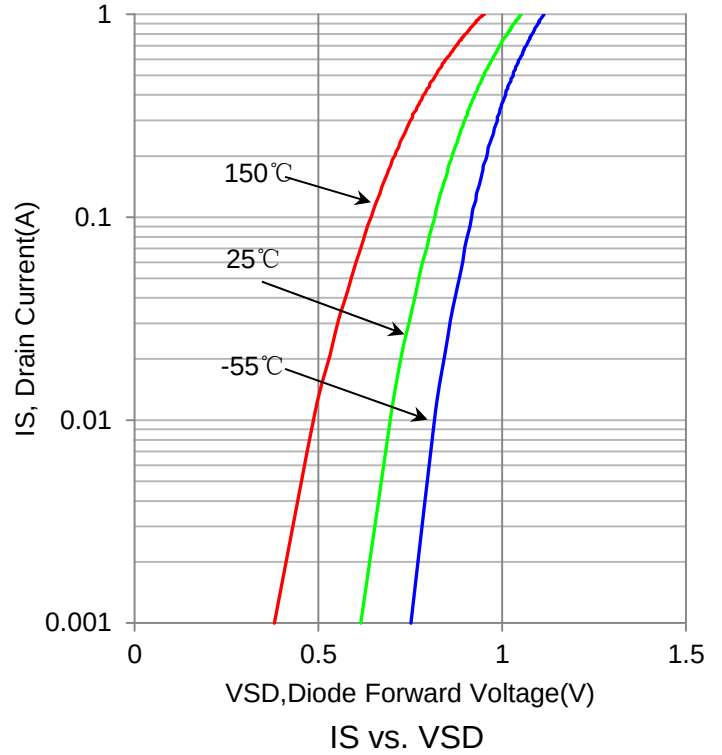
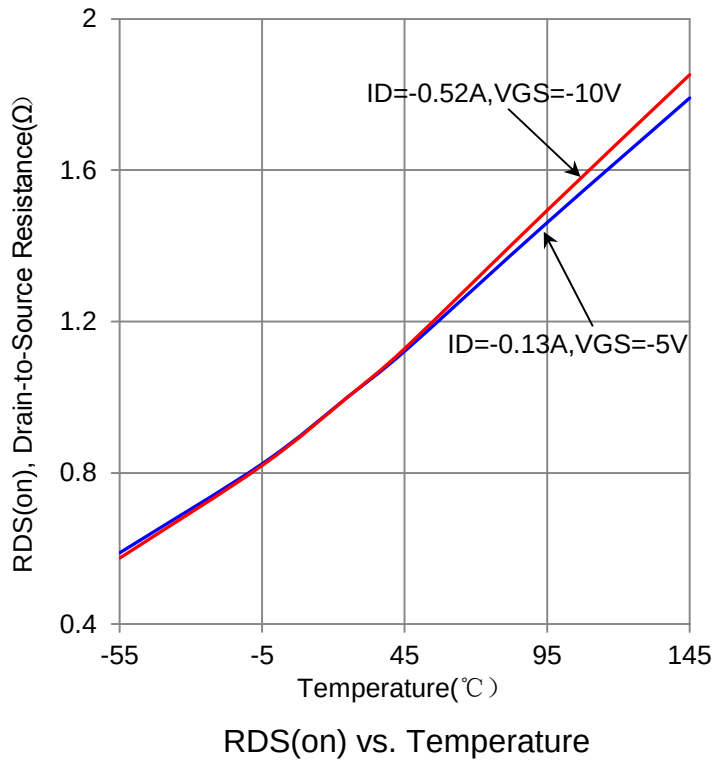
SOURCE–DRAIN DIODE CHARACTERISTICS

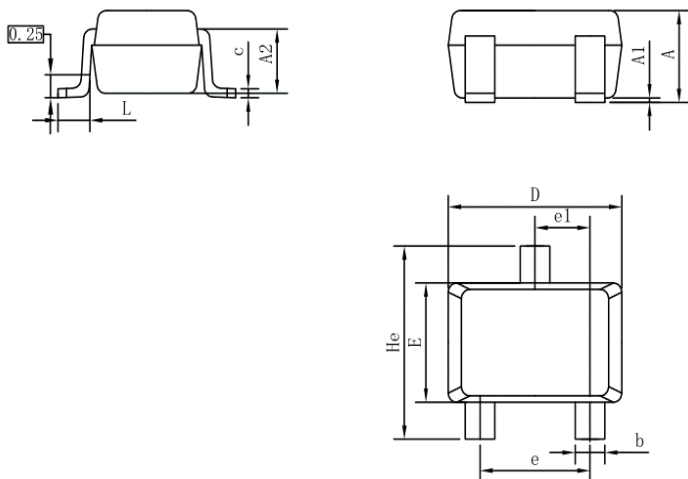
Continuous Current	IS	-	-	-0.13	A
Pulsed Current	ISM	-	-	-0.52	A
Forward Voltage	VSD	-	-2.5	-	V

2.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.



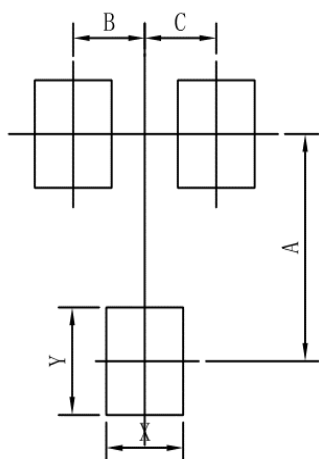
ELECTRICAL CHARACTERISTICS CURVES(Con.)





SOT-323			
DIM	MIN	NOR	MAX
A	0.80	0.95	1.00
A1	0.00	0.05	0.10
A2	0.7 REF		
b	0.30	0.35	0.40
c	0.10	0.15	0.25
D	1.80	2.05	2.20
E	1.15	1.30	1.35
e	1.20	1.30	1.40
e1	0.65 BSC		
L	0.20	0.35	0.56
He	2.00	2.10	2.40
ALL Dimension in mm			

SOLDERING FOOTPRINT



SOT-323	
DIM	(mm)
A	1.90
B	0.65
C	0.65
X	0.70
Y	0.90



Ordering Information:

Device PN	Marking	Packing
BSS84WT1- ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	PD ⁽⁴⁾	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code: Tape & Reel Packing ; Empty is Tube Packing.

(2) Packing code suffix "G"for RoHS product : Packing code Suffix"H" for halogen free product
All materials and products supplied comply with the U.S. Toxic Substances Control Act statement, PBT Chemicals.

(3) Willas brand abbreviation, Label Type does not display.

(4) There may be additional marking, which relates to the lot trace code information (data code and vendor code), the logo or the environmental category on the device.

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