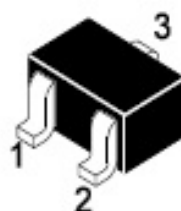


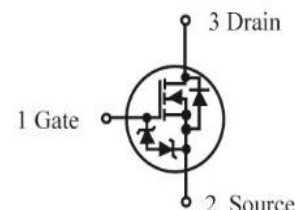
- ★ We declare that the material of product compliance with RoHS requirements and Halogen Free.
- ★ Low threshold voltage (VGS(th): 0.5V...1.5V) makes it ideal for low voltage applications.
- ★ ESD Protected:1500V

BVDSS	RDSON	ID
50V	10Ω	200mA

SOT-323 Pin Configuration



Marking code : J2



MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain–Source Voltage	VDSS	50	Vdc
Gate–to–Source Voltage – Continuous	VGS	±20	Vdc
Drain Current			mAdc
– Continuous TA = 25°C	ID	200	
– Pulsed (tp≤10μs)	IDM	800	

THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-4 Board (Note 1) @ TA = 25°C	PD	150	mW
Derate above 25°C		1.2	mW/°C
Thermal Resistance, Junction–to–Ambient(Note 1)	RθJA	833	°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-4 = 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 = 250μAdc)	VBRDSS	50	-	-	Vdc
Zero Gate Voltage Drain Current (VGS = 0, VDS = 25 Vdc) (VGS = 0, VDS = 50 Vdc)	IDSS	- -	- -	0.1 0.5	μAdc
Gate–Body Leakage Current, Forward (VGS = 20 Vdc)	IGSSF	-	-	10	μAdc
Gate–Body Leakage Current, Reverse (VGS = - 20 Vdc)	IGSSR	-	-	-10	μAdc

ON CHARACTERISTICS (Note 2)

Gate Threshold Voltage (VDS = VGS, ID = 1.0mAdc)	VGS(th)	0.5	-	1.5	Vdc
Static Drain–Source On–State Resistance (VGS = 2.75 Vdc, ID < 200 mAdc, TA = -40°C to +85°C) (VGS = 5.0 Vdc, ID = 200 mAdc)	RDS(on)	- -	5.6 -	10 3.5	Ohms
Forward Transconductance (VDS = 25 Vdc, ID = 200 mAdc, f = 1.0 kHz)	gfs	100	-	-	mS
Gate Resistance VDS=0V , VGS=0V , f=1MHz	Rg	-	85	-	Ohms

DYNAMIC CHARACTERISTICS

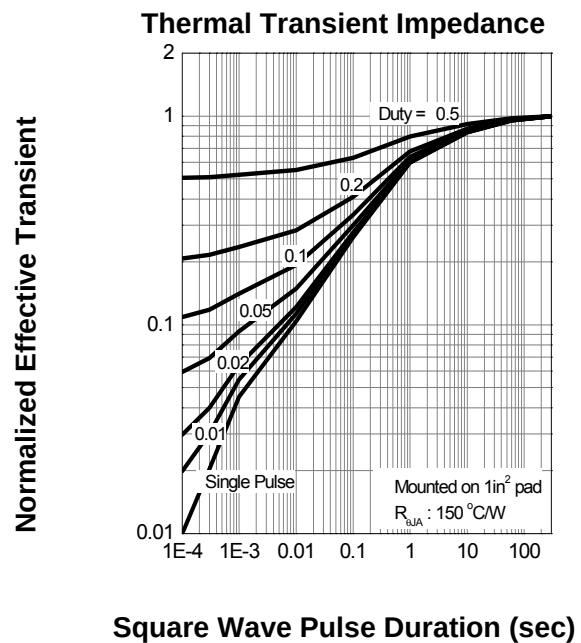
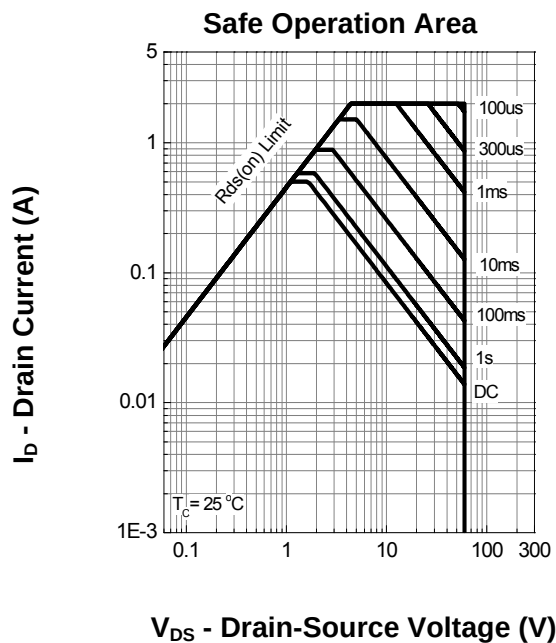
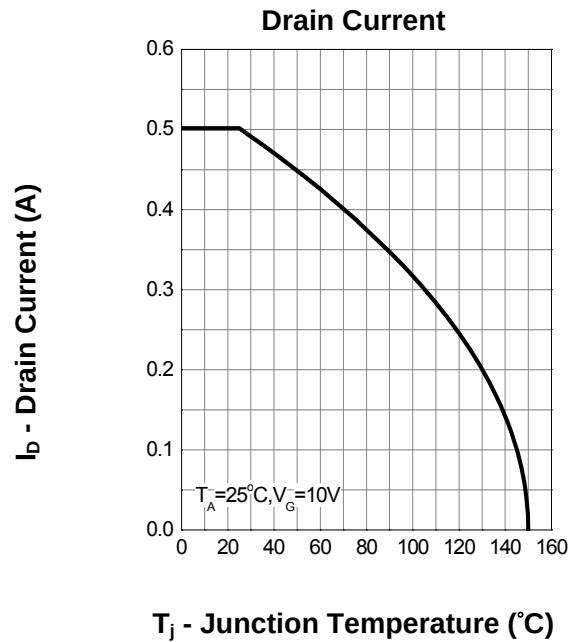
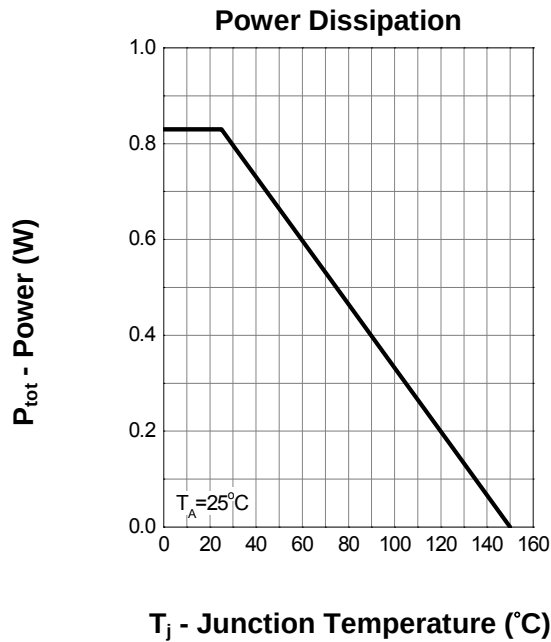
Input Capacitance (VDS = 25 Vdc, VGS = 0, f = 1.0 MHz)	Ciss	-	22.8	-	pF
Output Capacitance (VDS = 25 Vdc, VGS = 0, f = 1.0 MHz)	Coss	-	3.5	-	pF
Reverse Transfer Capacitance (VDS = 25 Vdc, VGS = 0, f = 1.0 MHz)	Crss	-	2.9	-	pF

SWITCHING CHARACTERISTICS

Turn-On Delay Time	(VDD = 30 Vdc , VGEN = 10 V, RG =25Ω ,RL =60 Ω, ID =500 mAdc)	td(on)	-	3.8	-	ns
Turn-Off Delay Time		td(off)	-	19	-	

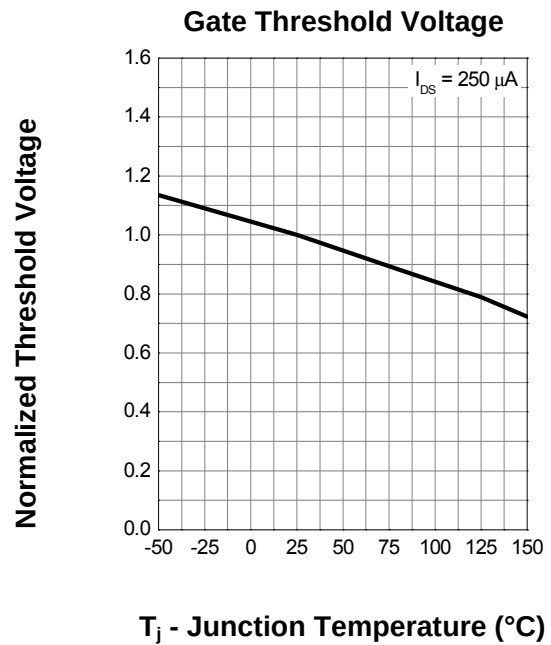
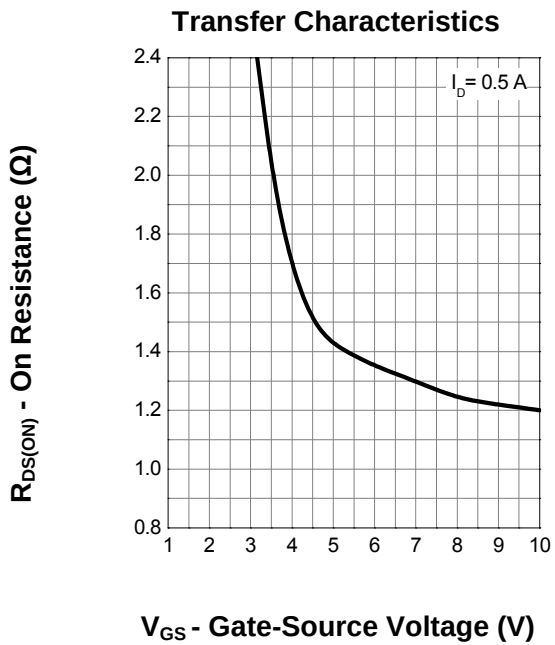
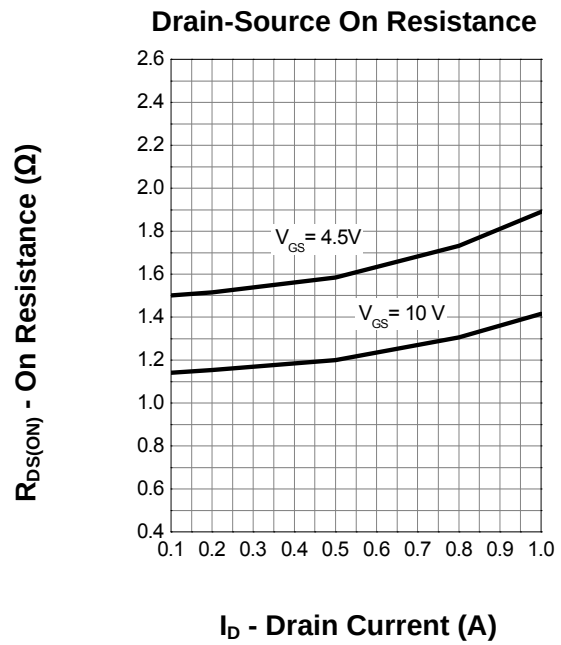
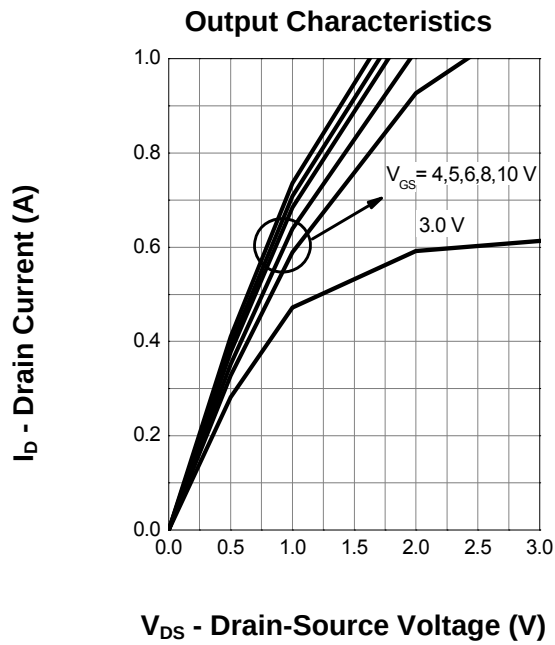
2.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

ELRCTRICAL CHARACTERISTICS CURVES(Con.)



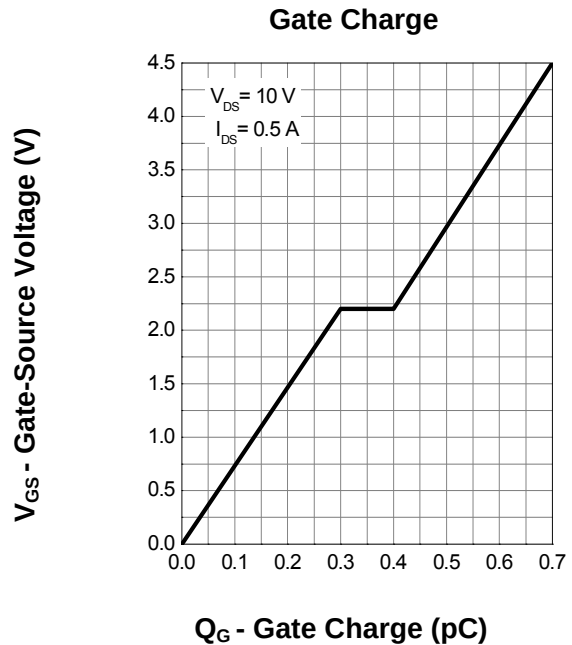
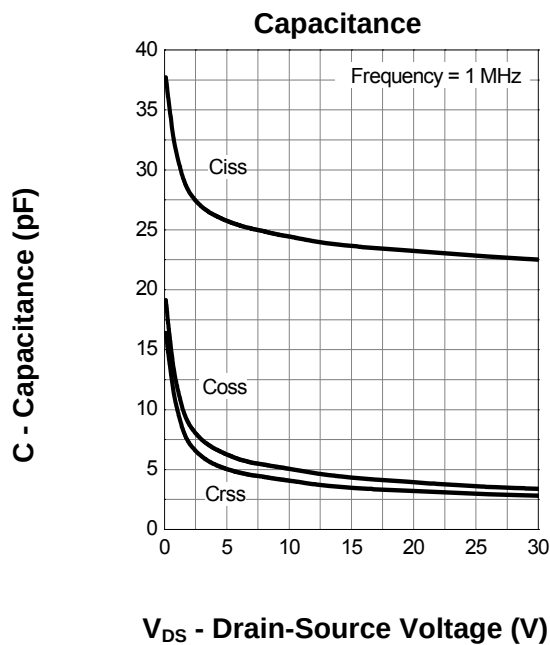
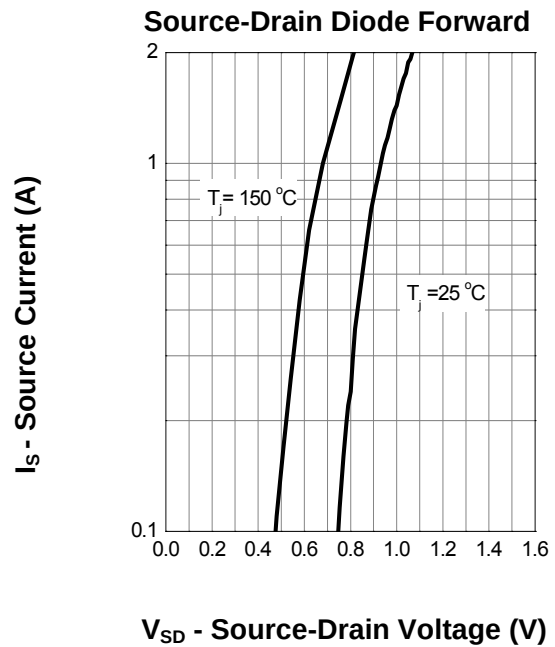
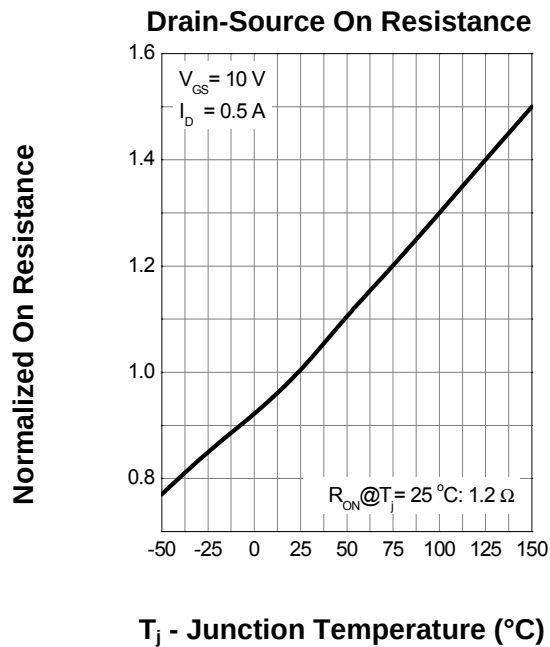


ELRCTRICAL CHARACTERISTICS CURVES((



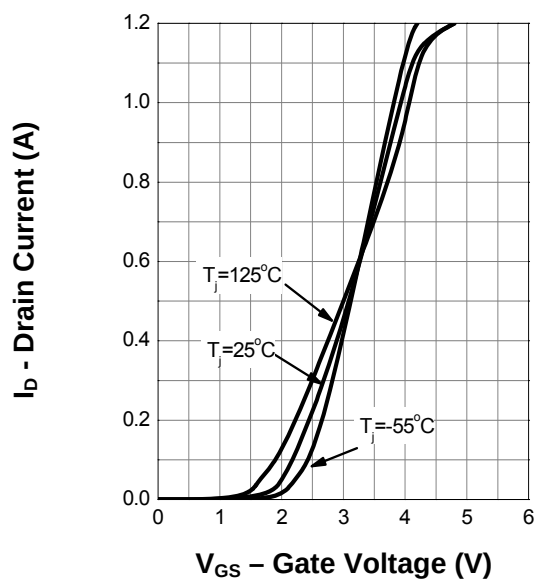
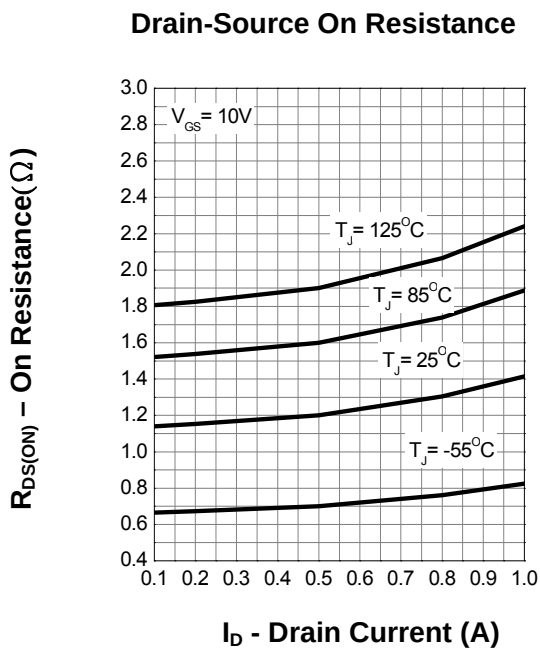
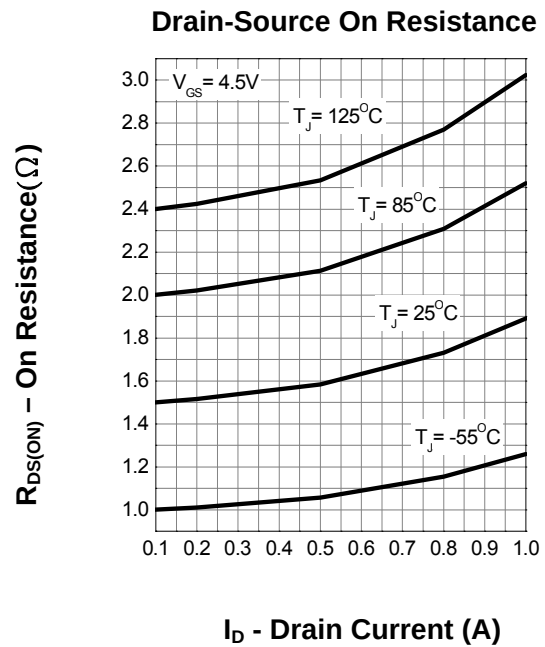
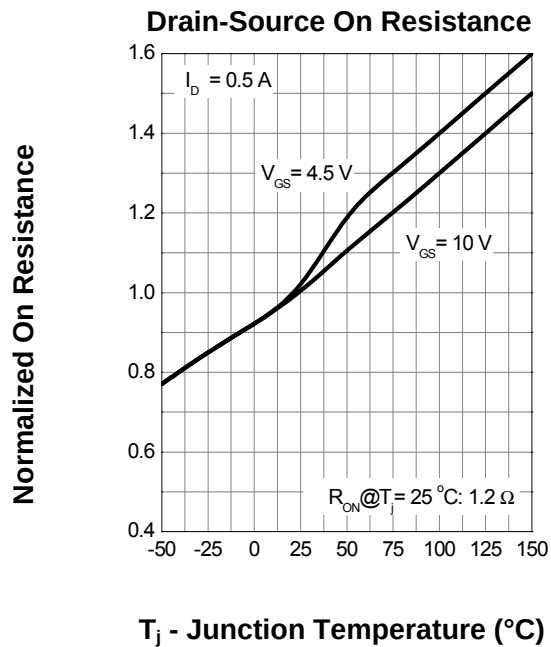


ELRCTRICAL CHARACTERISTICS CURVES(Con.)



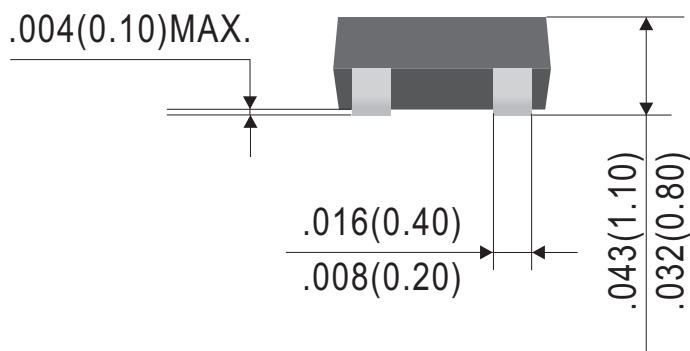
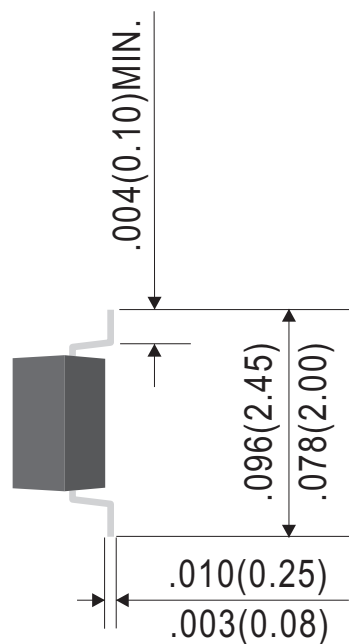
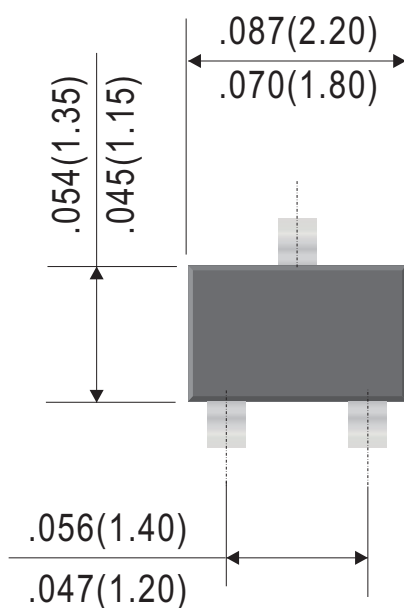


ELRCTRICAL CHARACTERISTICS CURVES(Con.)



Outline Drawing

SOT-323



Dimensions in inches and (millimeters)

Rev.D

Ordering Information:

Device PN	Packing
BSS139WT1 ⁽¹⁾ H ⁽²⁾ -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Halogen free product for packing code suffix "H"

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