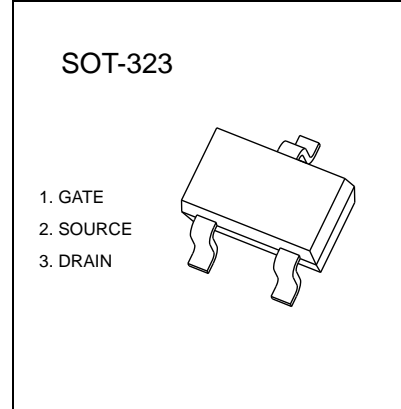


## SOT-323 Plastic-Encapsulate MOSFETS

**2N7002W** MOSFET (N-Channel)

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
9	# 9	P\$
	# 9	



### FEATURE

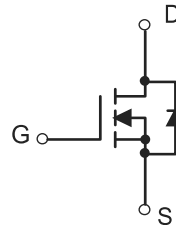
- z High density cell design for low  $R_{DS(ON)}$
- z Voltage controlled small signal switch
- z Rugged and reliable
- z High saturation current capability

### APPLICATION

- z /RDG 6ZLWFK IRU 3RUWDEOH
- z ' & ' & RQYHUWHU

M \$ 5 . , 1 \*

### Equivalent Circuit



### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ / unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
* Drain-Source Voltage	$V_{*S}$	" 0	V
Continuous Drain Current	$I_D$	0.115	A
Power Dissipation	$P_D$	0.2	W
Thermal Resistance from Junction to Ambient	$R_{JA}$		/ /W
Junction Temperature	$T_J$	150	/
Storage Temperature	$T_{stg}$	-50 ~ +150	



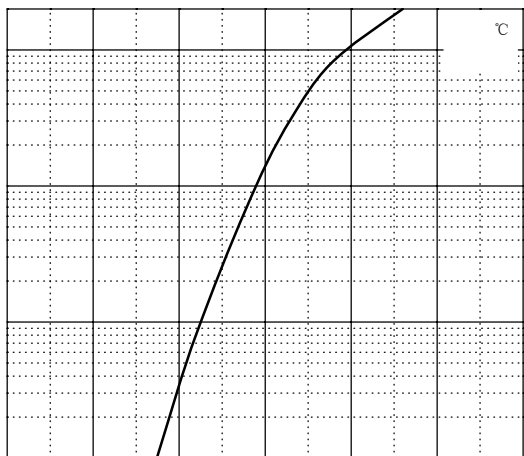
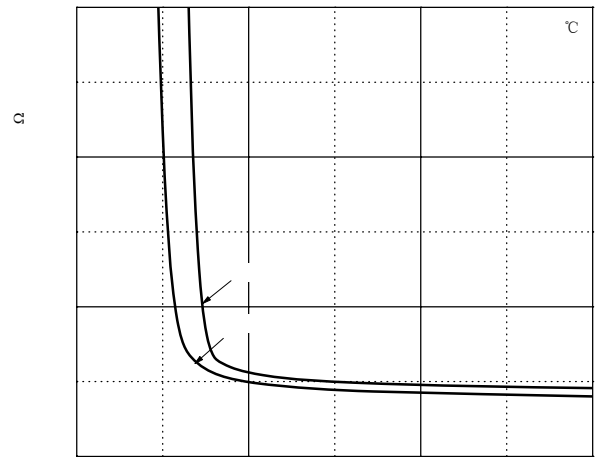
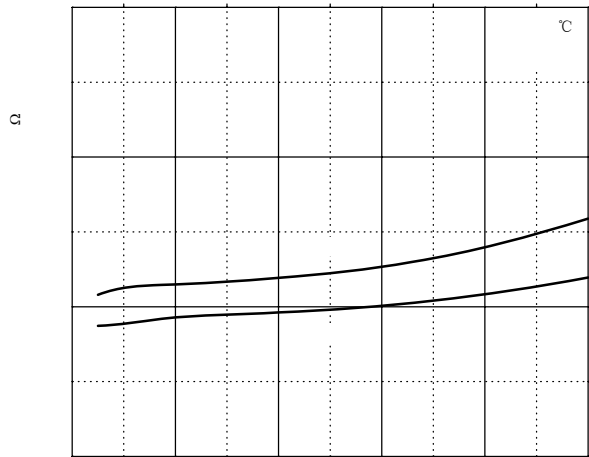
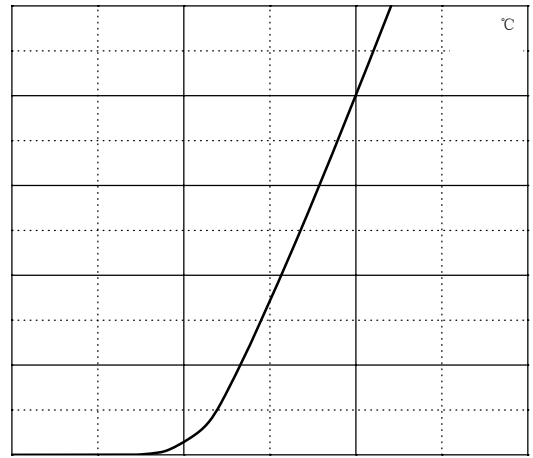
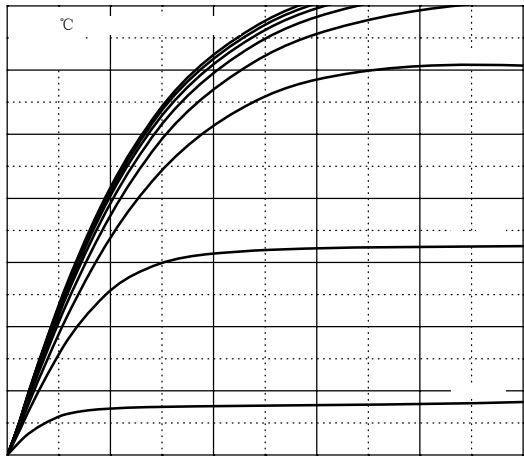
$T_a=25$  / unless otherwise specified

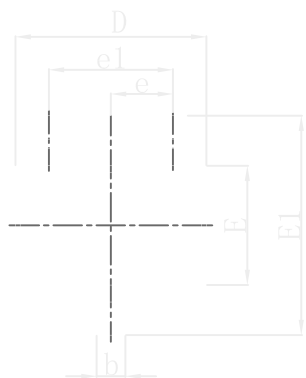
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=250\text{ mA}$	60			V
Gate-Threshold Voltage	$V_{(GS)WK}$	$V_{DS}=V_{GS}, I_D=250\text{ mA}$	1			
Gate-body Leakage	$I_{GSS}$	$V_{DS}=0\text{ V}, V_{GS}=2\text{ V}$			"	Q\$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			80	nA
On-state Drain Current	$I_{D(RQ)}$	$V_{GS}=10\text{ V}, V_{DS}=7\text{ V}$	500			mA
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{ PA}$				$\Omega$
		$V_{GS}=5\text{ V}, I_D=50\text{ PA}$			7	
Forward Trans conductance	$g_{fs}$	$V_{DS}=10\text{ V}, I_D=200\text{ PA}$	80			ms
Drain-source on-voltage	$V_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{ PA}$			3.75	V
		$V_{GS}=5\text{ V}, I_D=50\text{ PA}$			0.375	V
Diode Forward Voltage	$V_{SD}$	$I_S=115\text{ mA}, V_{GS}=0\text{ V}$	0.55		1.2	V
Input Capacitance	$C_{iss}$	$V_{DS}=25\text{ V}, V_{GS}=0\text{ V}, f=1\text{ MHz}$			50	pF
Output Capacitance	$C_{RVV}$				25	
Reverse Transfer Capacitance	$C_{rVV}$				5	

#### SWITCHING TIME

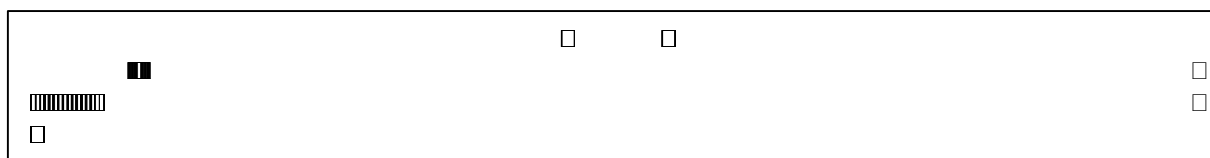
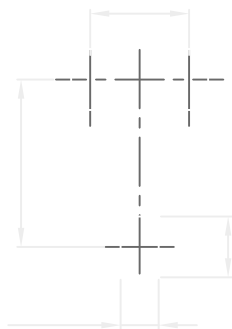
Turn-on Time	$t_{d(on)}$	$V_{DD}=25\text{ V}, R_L=50\text{ }\square\square, I_D=500\text{ mA}, V_{GEN}=10\text{ V}, R_G=25$			20	ns
Turn-off Time	$t_{d(off)}$				40	

\*These parameters have no way to verify.



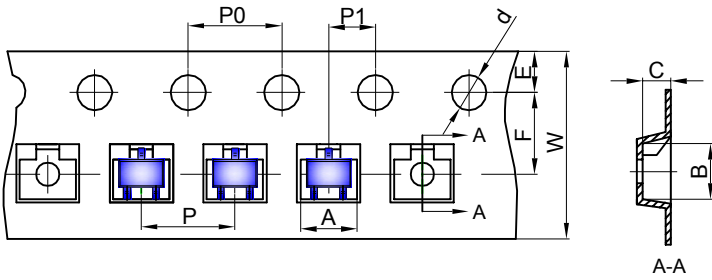


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°



# SOT-323 Tape and reel

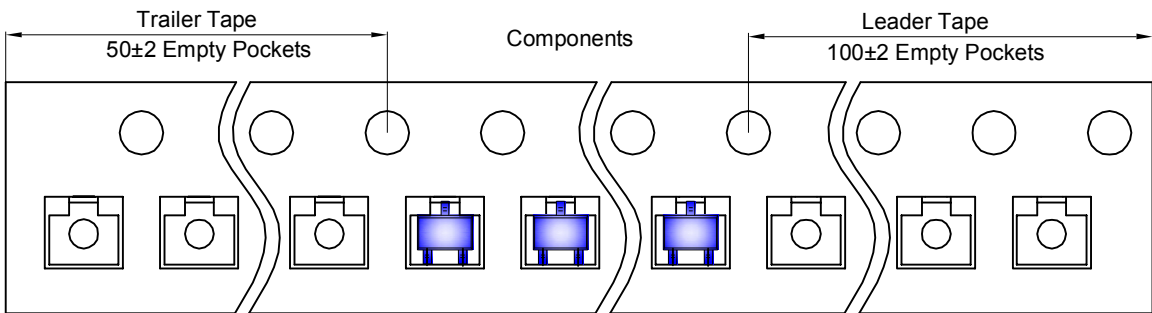
## SOT-323 Embossed Carrier Tape



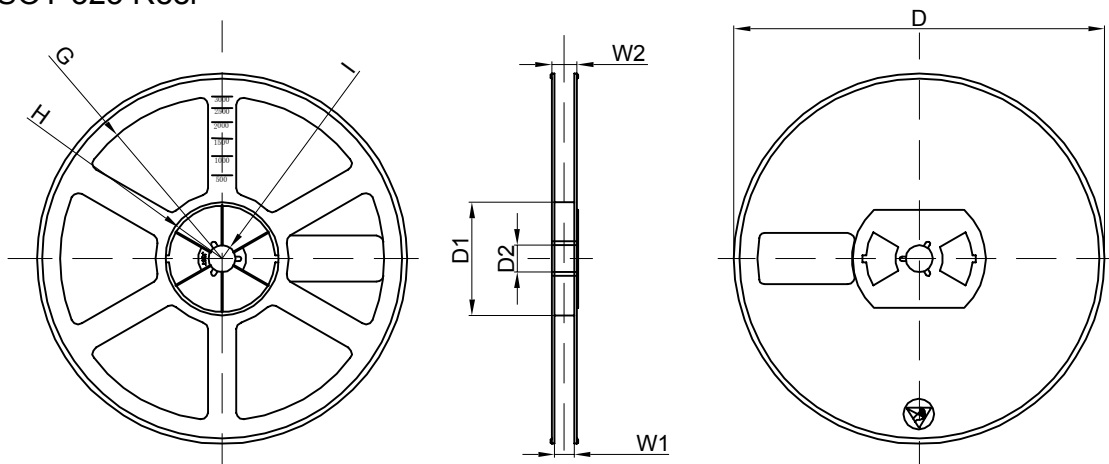
**Packaging Description:**  
 SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

## SOT-323 Tape Leader and Trailer



## SOT-323 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	