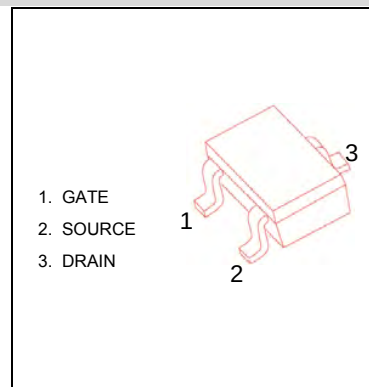
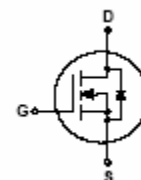


Nπ/KI-yf St Plastic-Encapsulate MOSFETS
PRIMARY CHARACTERISTICS

BV _{DSS}	R _{DS(on)} MAX	I _D
60V	5Ω@V _{GS} =10V	115mA
	7Ω@V _{GS} =5V	

SCHEMATIC DIAGRAM
SOT-523 PACKAGE

FEATURE

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


MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{DS}	Drain-Source voltage	60	V
V _{GS}	Gate-Source voltage	±20	V
I _D	Drain Current	115	mA
P _D	Power Dissipation	150	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	833	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 °C unless otherwise specified

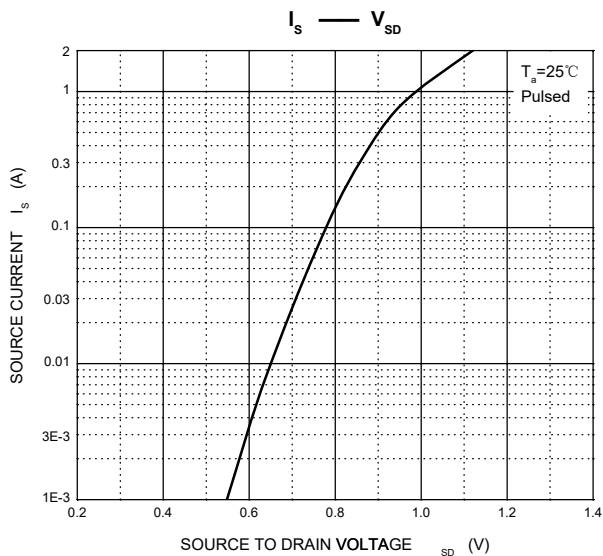
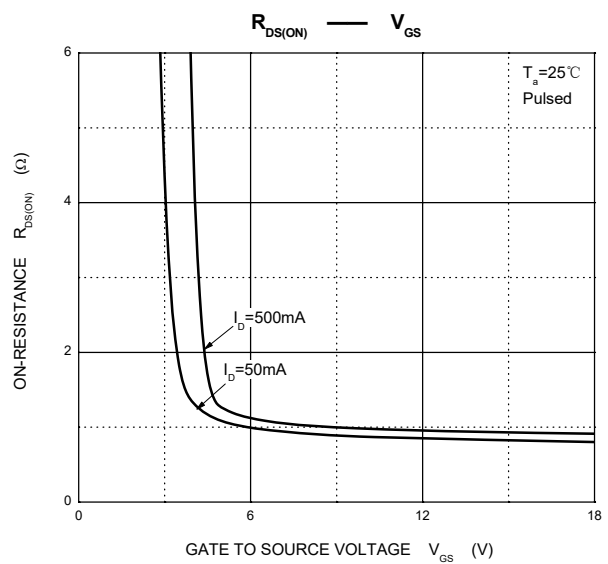
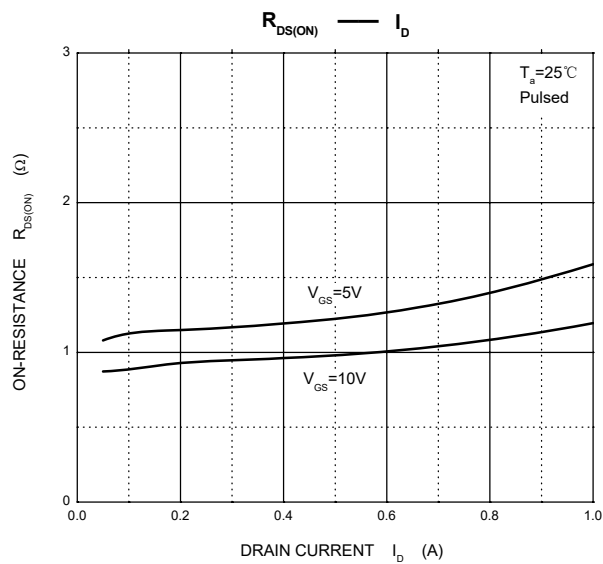
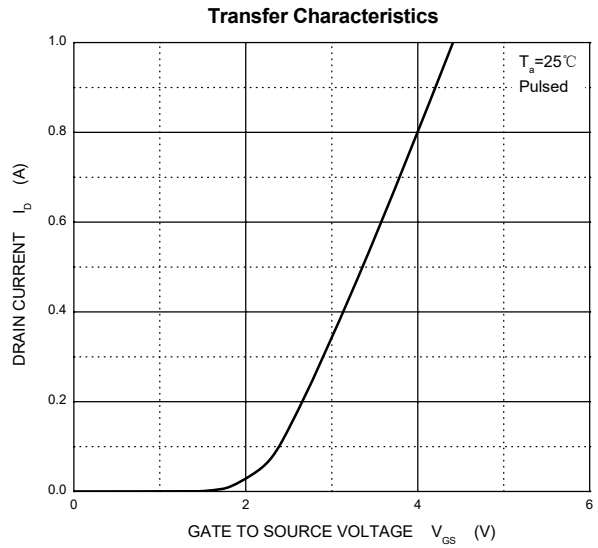
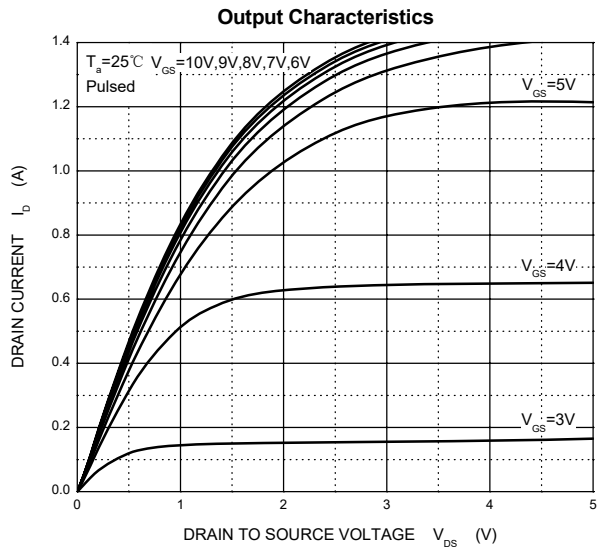
Parameter	Symbol	Test conditions	Min	Typ	M	
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0 V, I _D =250 μA	60			V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	1		2.5	
Gate-body Leakage	I _{GSS}	V _{DS} =0 V, V _{GS} =±20 V			±80	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60 V, V _{GS} =0 V			80	nA
On-state Drain Current	I _{D(on)}	V _{GS} =10 V, V _{DS} =7 V	500			mA
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10 V, I _D =500mA			5	Ω
		V _{GS} =5 V, I _D =50mA			7	
Forward Trans conductance	g _{fs}	V _{DS} =10 V, I _D =200mA	80			ms
Drain-source on-voltage	V _{DS(on)}	V _{GS} =10V, I _D =500mA			3.75	V
		V _{GS} =5V, I _D =50mA			0.375	V
Diode Forward Voltage	V _{SD}	I _S =115mA, V _{GS} =0 V	0.55		1.2	V
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz			50	pF
Output Capacitance	C _{oss}				25	
Reverse Transfer Capacitance	C _{rss}				5	

SWITCHING TIME

Turn-on Time	t _{d(on)}	V _{DD} =25 V, R _L =50Ω I _D =500mA, V _{GEN} =10 V R _G =25 Ω			20	ns
Turn-off Time	t _{d(off)}				40	



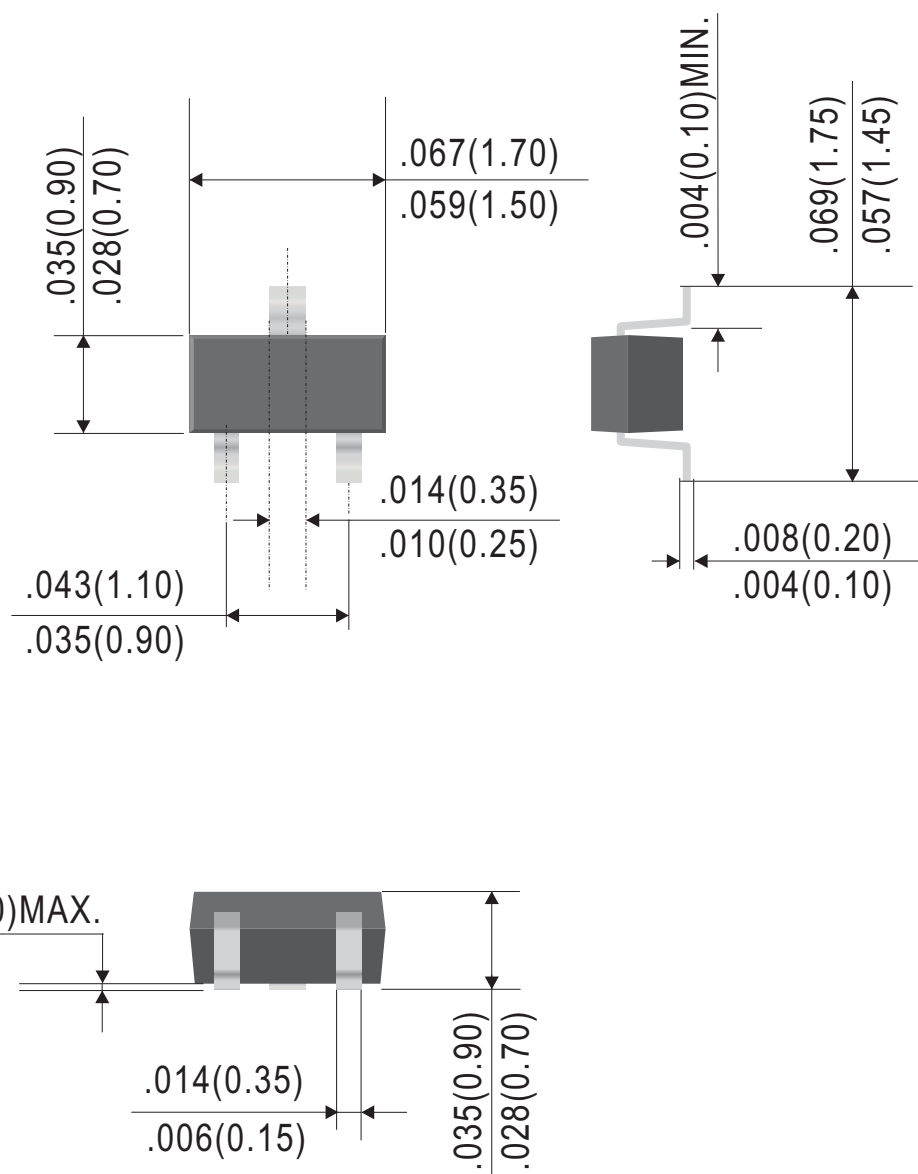
Typical Characteristics





Outline Drawing

SOT-523



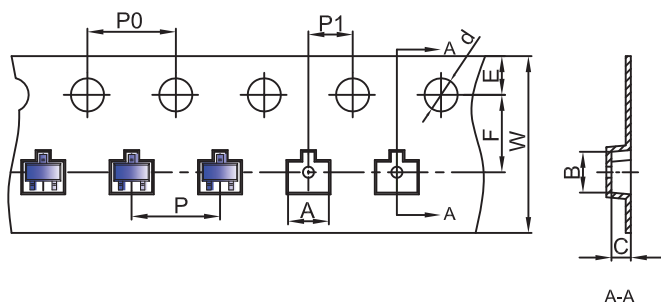
Dimensions in inches and (millimeters)

Rev.D



Suggested Soldering Pad Layout	SOT-523
Dimensions in inches and (millimeters)	
RevA	

SOT-523 Embossed Carrier Tape

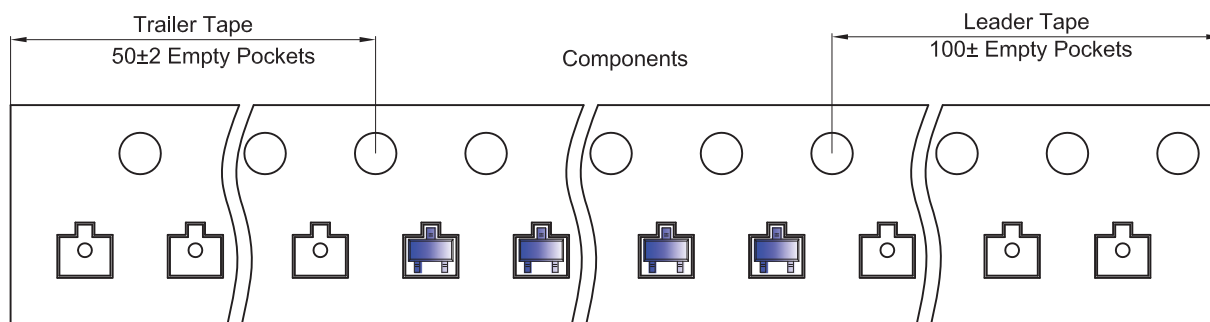


Packaging Description:

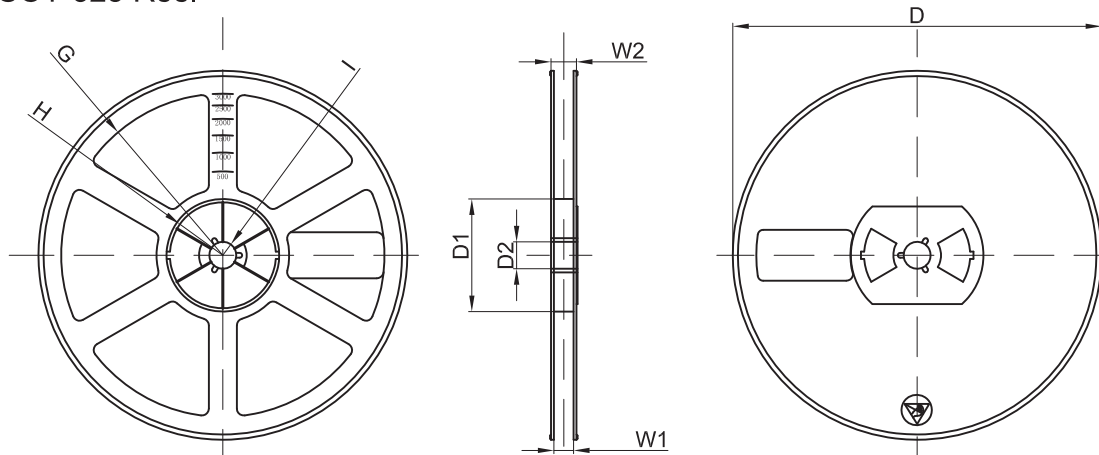
SOT-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-523	1.85	1.85	0.875	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-523 Tape Leader and Trailer



SOT-523 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	45 000 pcs	203×203×195	180 000 pcs	438×438×220	



Ordering Information:

Device PN	Marking ⁽⁴⁾	Packing
2N7002T-T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	K72	Tape&Reel: 3 Kpcs/Reel

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

Disclaimer

WILLAS reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. WILLAS or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on WILLAS data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. WILLAS does not assume any liability arising out of the application or use of any product or circuit.

This is the preliminary specification. WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.