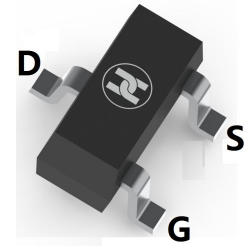
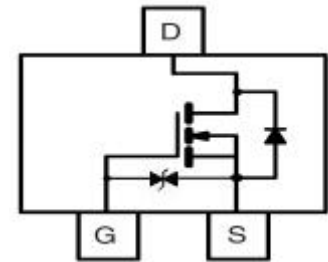


MOSFET (N-CHANNEL)
FEATURES

- Low On-Resistance: $R_{DS(ON)}$
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage


SOT-723

MECHANICAL DATA

- Case: SOT-723
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)

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

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	60	V
Gate-source voltage	V_{GS}	$\pm 20\text{V}$	V
Continuous drain current	I_D	340	mA
Pulsed drain current (Note 1)	I_{DM}	800	mA
Power dissipation	P_D	0.15	W
Thermal resistance from Junction to ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction And Storage temperature Range	T_J, T_{STG}	-65 ~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

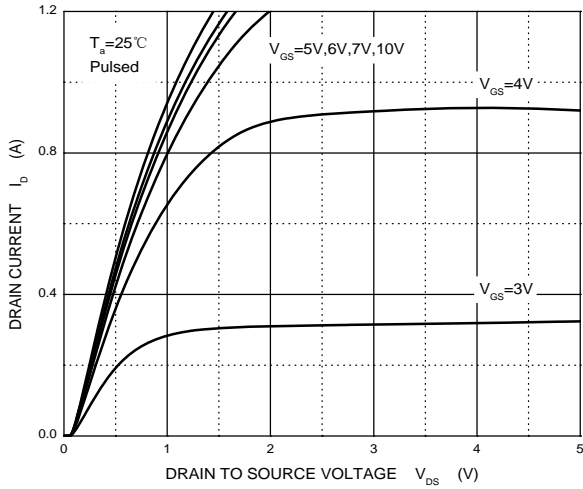
Parameter	Symb	Min	Typ	Max	Unit	Conditions
Static Characteristics						
Drain-Source breakdown voltage	$V_{(BR)DSS}$	60			V	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$
Gate-threshold voltage (note 1)	$V_{GS(\theta)}$	1	1.3	2.5	V	$V_{DS}=V_{GS}, I_D=1\text{mA}$
Zero gate voltage drain current	I_{DSS}			1	μA	$V_{DS}=48\text{V}, V_{GS}=0\text{V}$
Gate-body leakage current	I_{GSS}			± 10	μA	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$
				± 200	nA	$V_{DS}=0\text{V}, V_{GS}=\pm 10\text{V}$
				± 100	nA	$V_{DS}=0\text{V}, V_{GS}=\pm 5\text{V}$
Drain-source on-resistance (note 1)	$R_{DS(ON)}$		1.1	4.0	Ω	$V_{GS}=4.5\text{V}, I_D=0.2\text{A}$
			0.9	4.0	Ω	$V_{GS}=10\text{V}, I_D=0.5\text{A}$
Diode forward voltage (note 1)	V_{SD}			1.5	V	$I_S=0.3\text{A}, V_{GS}=0\text{V}$
Gate-Source Breakdown Voltage	BV_{GSO}	± 21.5		± 30	V	$I_{GS}=\pm 1\text{mA}$ (Open Drain)
Recovered charge	Q_r		30		nC	$V_{GS}=0\text{V}, I_S=0.3\text{A}, V_R=25\text{V}, dI_S/dt=-100\text{A}/\mu\text{S}$
Dynamic Characteristics						
Input capacitance	C_{iss}			40	pF	$V_{DS}=10\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$
Output capacitance	C_{oss}			30	pF	
Reverse transfer capacitance	C_{rss}			10	pF	
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$		3		nS	$V_{DD}=50\text{V}, V_{GS}=10\text{V}, R_G=50\Omega, R_{GS}=50\Omega, R_L=250\Omega$
Turn-off delay time	$t_{d(off)}$		15		nS	
Reverse recovery time	t_{rr}		26		nS	$V_{GS}=0\text{V}, I_S=0.3\text{A}, V_R=25\text{V}, dI_S/dt=-100\text{A}/\mu\text{S}$

Note:1. Pulse test ; Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

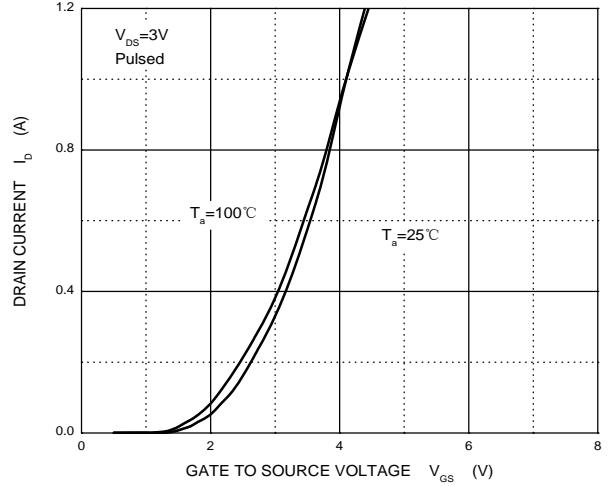
MOSFET (N-CHANNEL)

Typical Characteristics

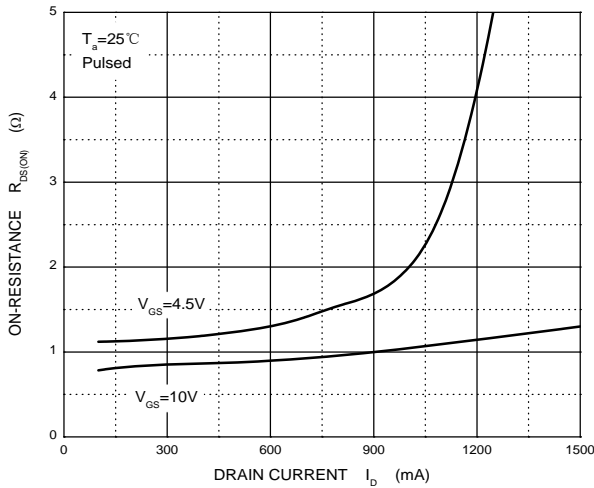
Output Characteristics



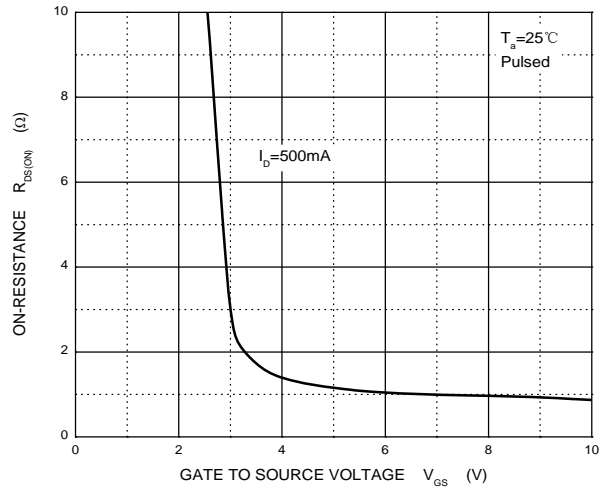
Transfer Characteristics



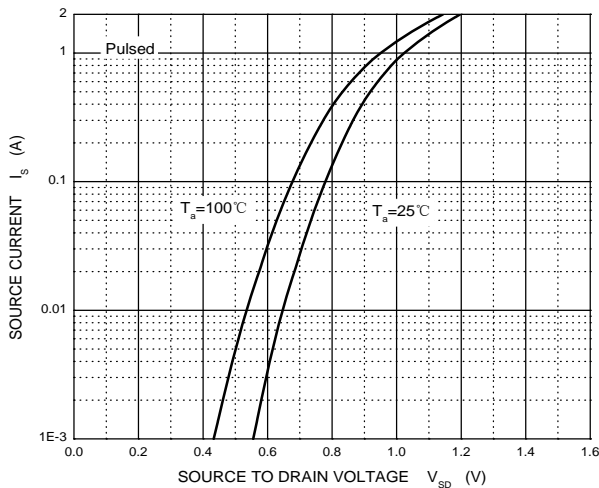
$R_{DS(ON)}$ — I_D



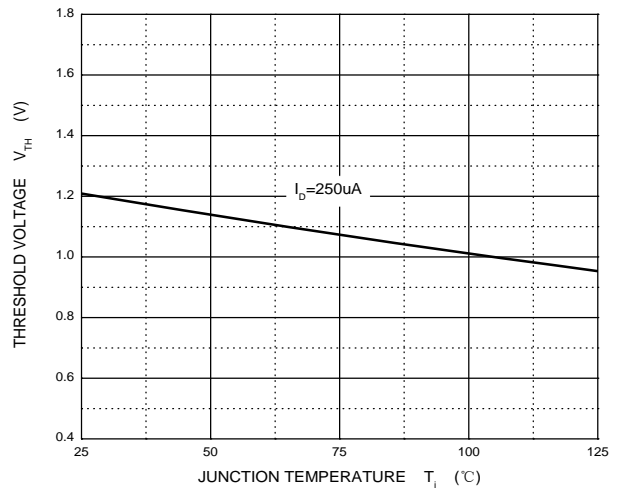
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

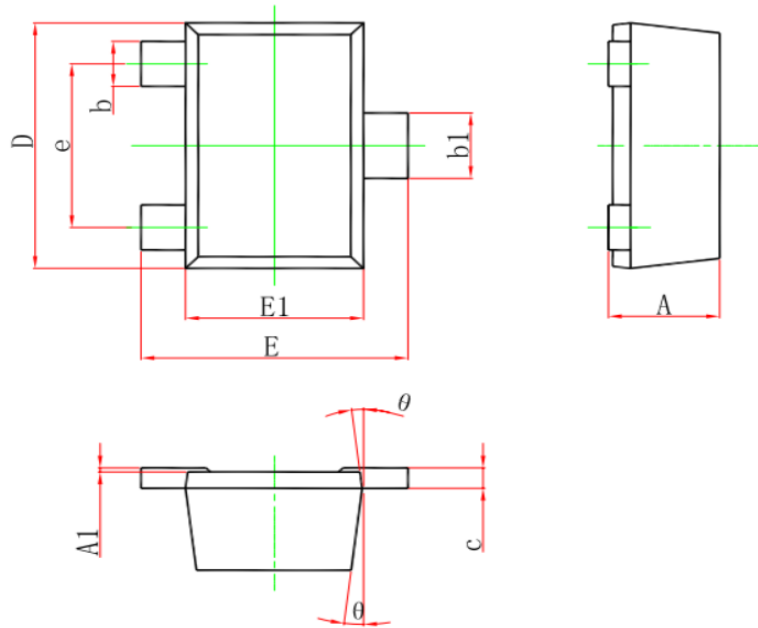


Threshold Voltage



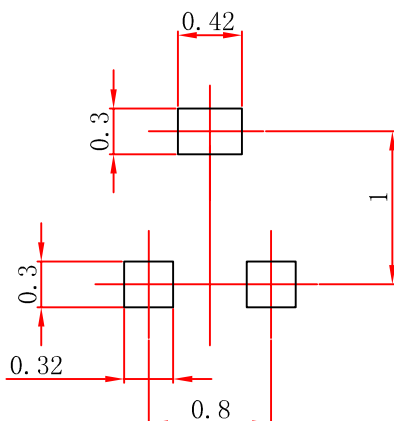
MOSFET (N-CHANNEL)

SOT-723 PACKAGE OUTLINE DIMENSION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 SUGGESTED PAD LAYOUT

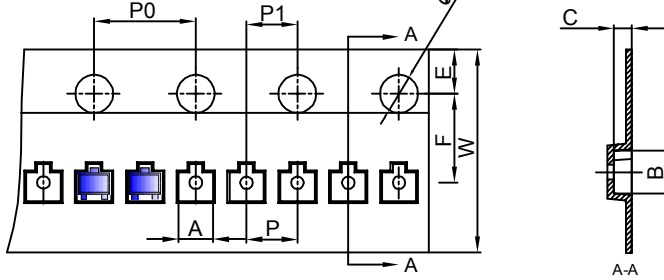


Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

MOSFET (N-CHANNEL)
SOT-723 TAPE AND REEL

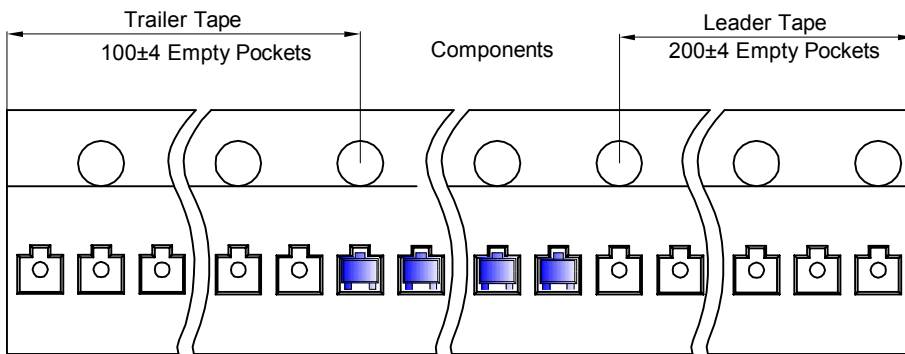
SOT-723 Embossed Carrier Tape



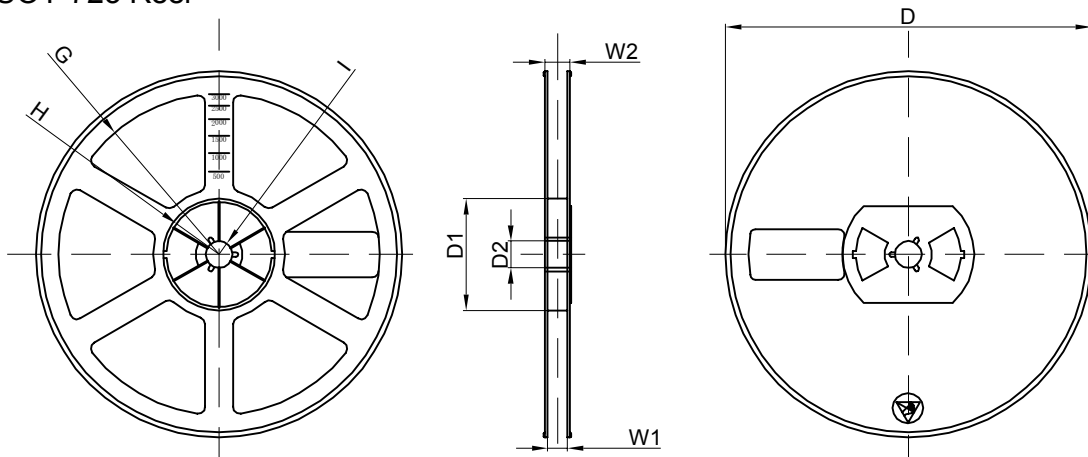
Packaging Description:
SOT-723 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 8,000 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-723	1.33	1.45	0.61	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

SOT-723 Tape Leader and Trailer



SOT-723 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)
8000 pcs	7 inch	80,000 pcs	203×203×195	320,000 pcs	438×438×220	