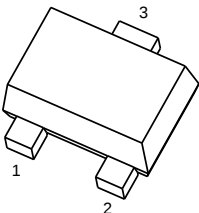
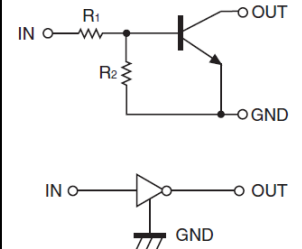


**Digital Transistors (Built-in Resistors)****DTC115EM** DIGITAL TRANSISTOR (NPN)**FEATURES**

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input.They also have the advantage of almost completely eliminating parasitic effects
- Only the on/off conditions need to be set for operation, making device design easy

PIN CONNENCTIONS, MARKING and EQUIVALENT CIRCUIT

DTC115EM		SOT-723	Equivalent Circuit
MARKING:29		1. IN 2. GND 3. OUT	

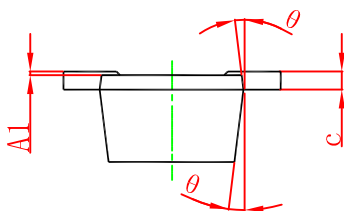
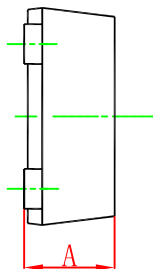
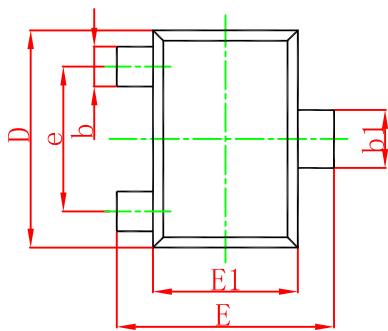
MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

Symbol	Parameter	Limit	Unit
V _{CC}	Supply Voltage	50	V
V _{IN}	Input Voltage	-10~+40	V
I _O	Output Current	100	mA
P _D	Power Dissipation	100	mW
T _J ,T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

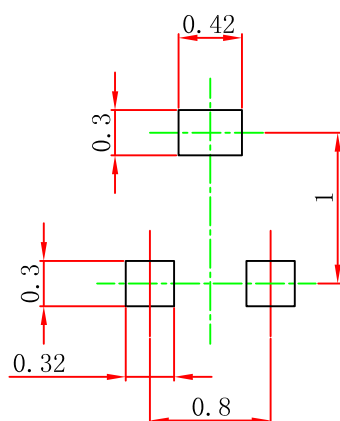
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	V _{I(off)}	V _{CC} =5V, I _O =100μA	0.5			V
	V _{I(on)}	V _O =0.3V, I _O =1mA			3	V
Output voltage	V _{O(on)}	I _O /I _I =5mA/0.25mA		0.1	0.3	V
Input current	I _I	V _I =5V			0.15	mA
Output current	I _{O(off)}	V _{CC} =50V, V _I =0V			0.5	μA
DC current gain	G _I	V _O =5V, I _O =5mA	82			
Input resistance	R ₁		70	100	130	kΩ
Resistance ratio	R ₂ /R ₁		0.8	1	1.2	
Transition frequency	f _T	V _O =10V, I _O =5mA, f=100MHz		250		MHz

SOT-723 Package Outline Dimensions



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



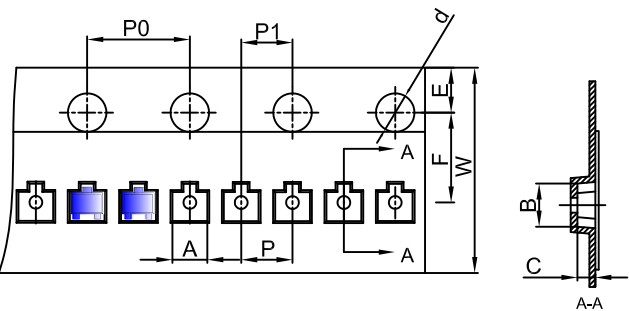
Note:

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

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

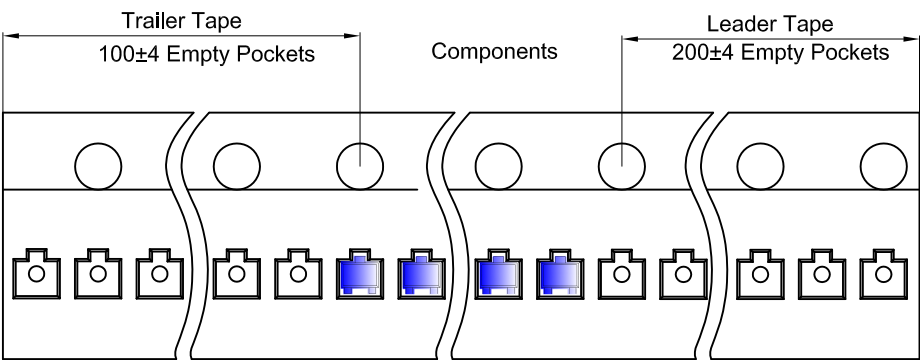
SOT-723 Embossed Carrier Tape



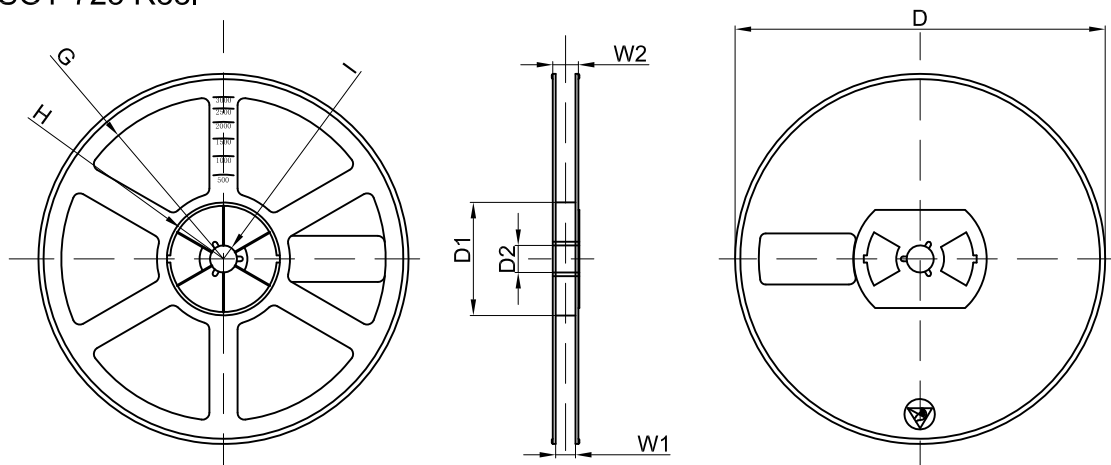
Packaging Description:
SOT-723 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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	120,000 pcs	203×203×195	480,000 pcs	438×438×220	