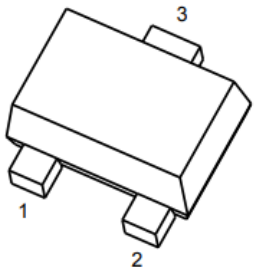
Digital Transistors (Built-in Resistors)



1. IN
2. GND
3. OUT

SOT-723

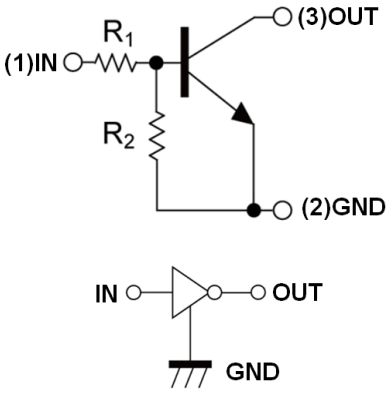
Features

●Epoxy meets UL-94 V-0 flammability rating
●Moisture Sensitivity Level 1
●Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
●Surface mount package ideally Suited for Automatic Insertion
●NPN

Mechanical Data

● **Package**: SOT-723
● **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
● **Marking:** 24

■Equivalent circuit



■Maximum Ratings (Ta=25℃ Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Supply Voltage	V_{CC}	V		50
Input Voltage	V_{IN}	V		-5 to +30
Output Current	I_O	mA		100
Power Dissipation	P_D	mW		100
Junction Temperature	T_J	℃		-55 to +150
Storage Temperature	T_{STG}	℃		-55 to +150

■Electrical Characteristics (Ta=25℃ unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$VI_{(off)}$	V	V_{CC}=5V, Ic=100uA	0.5		
	$VI_{(on)}$	V	V_O=0.3V, Ic=10mA			3
Output voltage	$Vo_{(on)}$	V	Io /Ii =10mA/0.5 mA			0.3
Output current	$I_{O(off)}$	uA	V_{CC}=50V, Vi=0			0.1
DC current gain	GI		V_O=5V, I_O=5mA	30		
Input resistance	R_1	kΩ		7	10	13
Resistance ratio	R_2/R_1			0.8	1	1.2
Transition frequency	fT	MHz	Vo=10V, IO=5mA, f=100MHz		250	

■ Thermal Characteristics

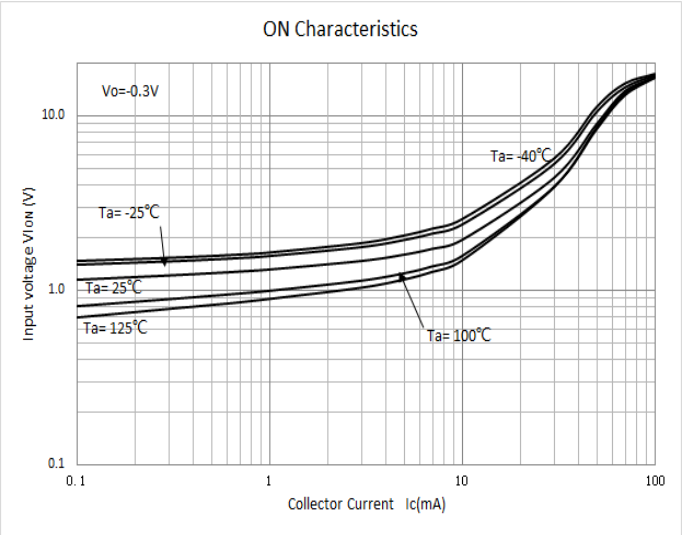
Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J\text{-}A}$(1)	℃/W	1250
Thermal resistance, junction-to-case	$R_{\theta J\text{-}C}$(1)	℃/W	1000

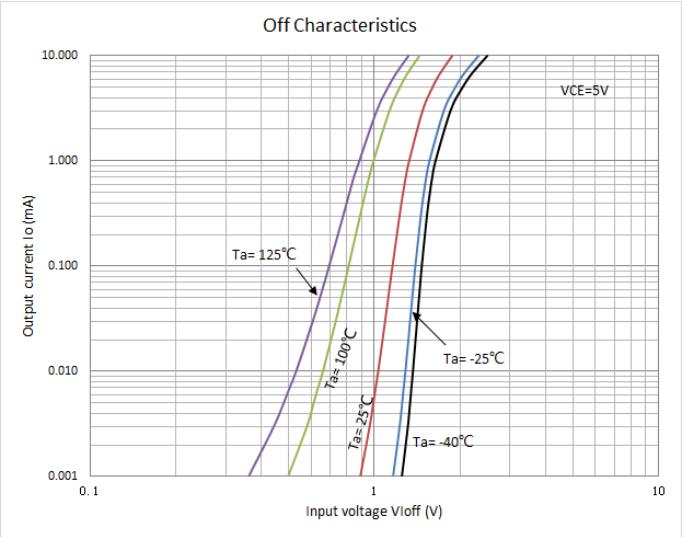
Note: Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas.

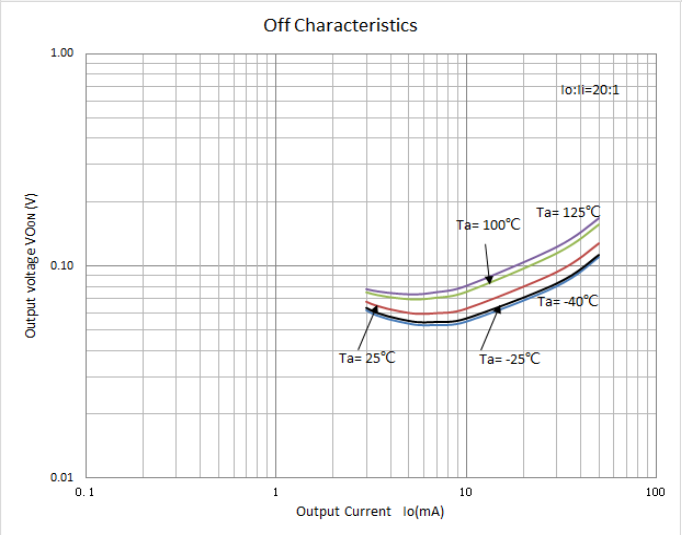
■ Ordering Information (Example)

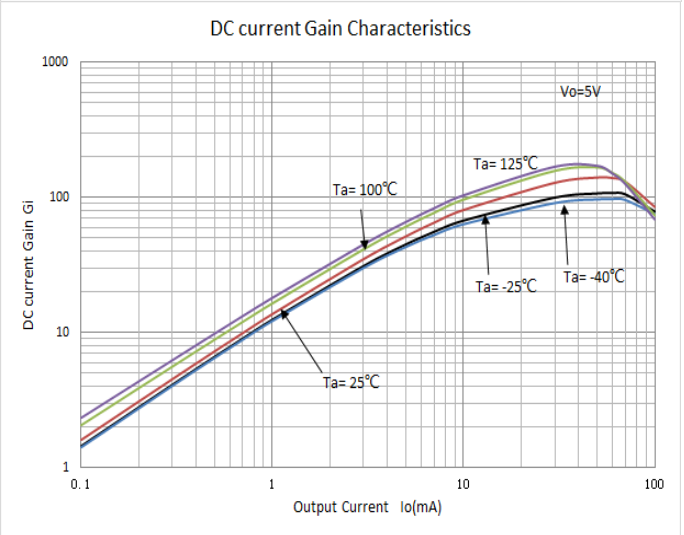
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTC114EM	F2	Approximate 0.0013	8000	80000	320000	7” reel

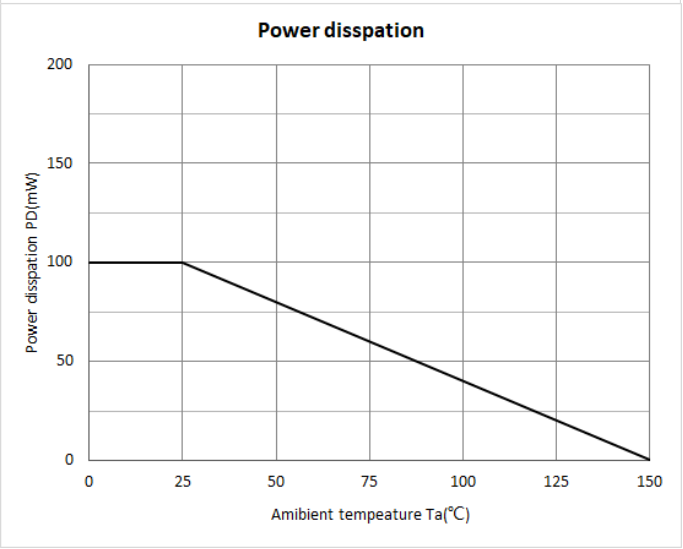
■ **Characteristics** (Typical)



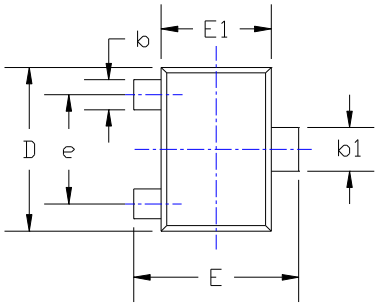




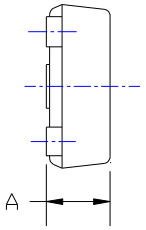




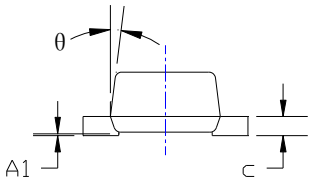
■SOT-723 Package Outline Dimensions



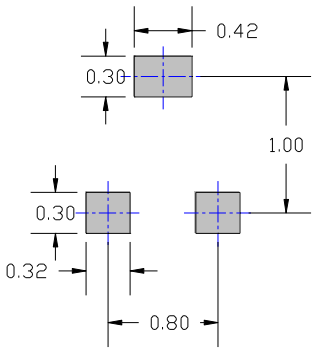
TOP VIEW



SIDE VIEW



SIDE VIEW



SUGGESTED SOLDER PAD LAYOUT

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.430	0.550
A1	0.000	0.002	0.000	0.050
b	0.007	0.011	0.170	0.270
b1	0.011	0.015	0.270	0.370
c	0.003	0.008	0.080	0.200
D	0.045	0.049	1.150	1.250
E	0.045	0.049	1.150	1.250
E1	0.030	0.033	0.750	0.850
e	0.031TYP.		0.800TYP.	
θ	7°REF.		7°REF.	

NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

Note:
1. All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
2. General tolerances: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，除非另有说明]
3. Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
4.All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
5.Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
6.Dimensions D and E1are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
7.Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]
8. ★It is the key size.
[★ 标记为关键尺寸]

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