



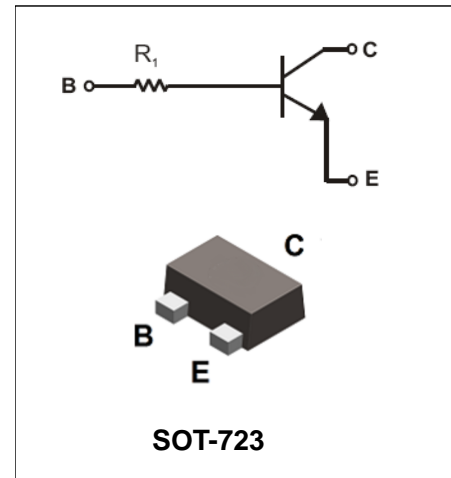
### FEATURES

- Epitaxial planar die construction
- Complementary PNP types available(DTA)
- Built-in biasing resistor, R<sub>1</sub> only
- Also available in lead free version

### APPLICATIONS

- The NPN style digital transistor

### ORDERING INFORMATION



Type No.	Marking	Package Code
DTC114TM	04	SOT-723
DTC143TM	03	SOT-723
DTC144TM	06	SOT-723
DTC123TM	02	SOT-723

### MAXIMUM RATING @ T<sub>A</sub> = 25°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C(Max.)</sub>	Collector Current	100	mA
P <sub>D</sub>	Power Dissipation	100	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient Air	1250	°C/W
T <sub>j</sub> , T <sub>stg</sub>	Operating and Storage and Temperature Range	-55 to +150	°C



### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base breakdown Voltage	$BV_{CBO}$	$I_C=50\mu A$	50	-	-	V
Collector-Emitter breakdown Voltage	$BV_{CEO}$	$I_C=1mA$	50	-	-	V
Emitter-Base breakdown Voltage	$BV_{EBO}$	$I_E=50\mu A$	5	-	-	V
Collector cutoff Current	$I_{CBO}$	$V_{CB}=50V$	-	-	0.5	$\mu A$
Emitter cutoff Current	$I_{EBO}$	$V_{EB}=4V$	-	-	0.5	$\mu A$
Collector-Emitter saturation voltage DTC114TM DTC143TM DTC144TM DTC123TM	$V_{CE(sat)}$	$I_C/I_B=10mA/1mA$ $I_C/I_B=5mA/0.25mA$ $I_C/I_B=5mA/0.5mA$ $I_C/I_B=5mA/0.25mA$	-	-	0.3	V
DC Current Gain	$h_{FE}$	$I_C=1mA, V_{CE}=5V$	100	250	600	
Input Resistor( $R_1$ ) DTC114TM DTC143TM DTC144TM DTC123TM	$R_1$		7 3.29 32.9 1.54	10 4.7 47 2.2	13 6.11 61.1 2.86	$k\Omega$
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_E=-5mA,$ $f=100MHz$	-	250	-	MHz

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

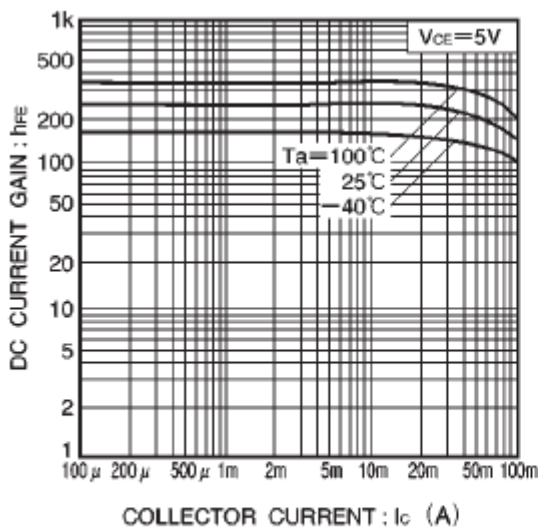


Fig.1 DC current gain vs. collector current

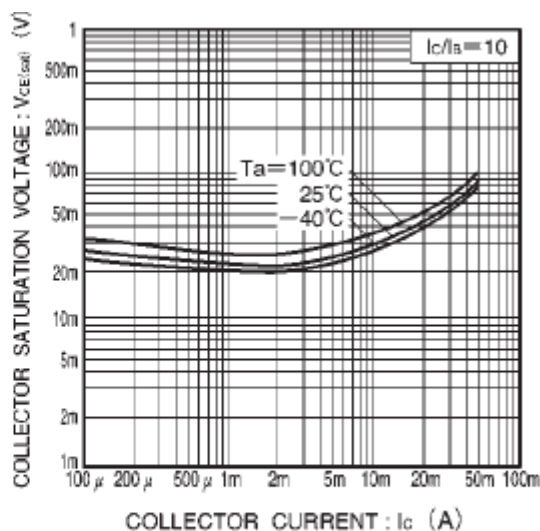


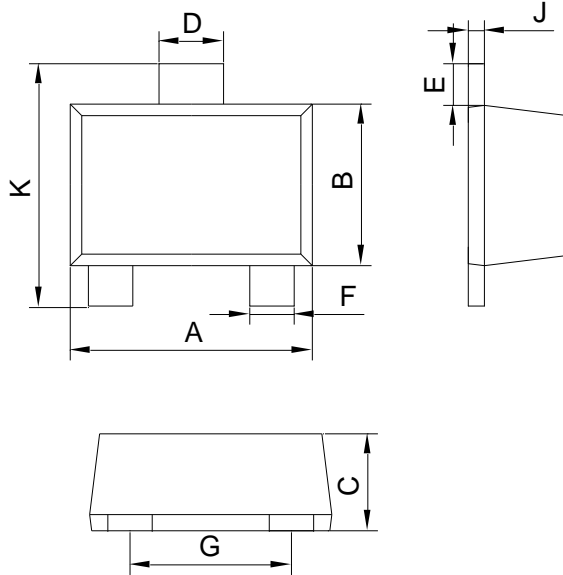
Fig.2 Collector-emitter saturation voltage vs. collector current



### PACKAGE OUTLINE

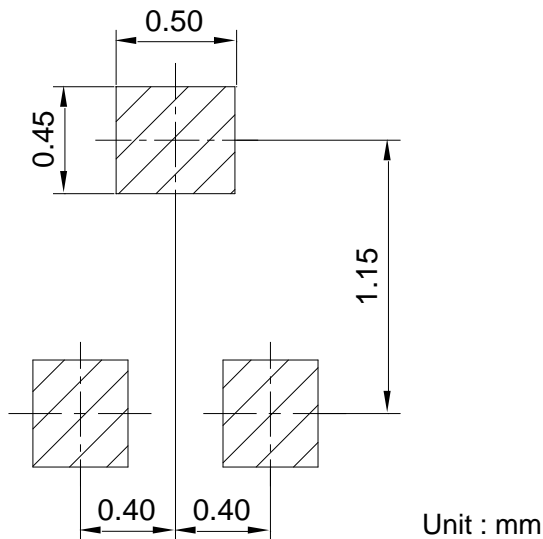
Plastic surface mounted package

SOT-723



SOT-723		
Dim	Min	Max
A	1.10	1.30
B	0.70	0.90
C	0.40	0.54
D	0.22	0.42
E	0.10	0.30
F	0.12	0.32
G	0.70	0.90
J	0.08	0.15
K	1.10	1.30
All Dimensions in mm		

### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
DTC143TM/114TM/144TM/123TM	SOT-723	10000 pcs / Tape & Reel