



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components



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DTC144TE

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- 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 (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
- Halogen free available upon request by adding suffix "-HF"

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	100	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55~150	°C

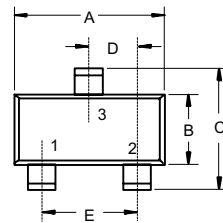
Electrical Characteristics

Sym	Parameter	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=50\mu A, I_E=0$)	50	---	---	V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1mA, I_B=0$)	50	---	---	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=50\mu A, I_C=0$)	5	---	---	V
I_{CBO}	Collector Cut-off Current ($V_{CB}=50V, I_E=0$)	---	---	0.5	μA
I_{EBO}	Emitter Cut-off Current ($V_{EB}=4V, I_C=0$)	---	---	0.5	μA
h_{FE}	DC Current Gain ($V_{CE}=5V, I_C=1mA$)	100	300	600	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=10mA, I_B=1mA$)	---	---	0.3	V
R_1	Input resistance	32.9	47	61.1	$K\Omega$
f_T	Transition Frequency ($V_{CE}=10V, I_C=-5mA, f=100MHz$)	---	250	---	MHz

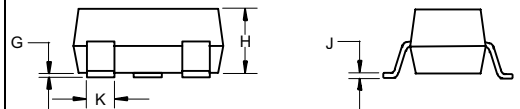
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NPN Digital Transistor

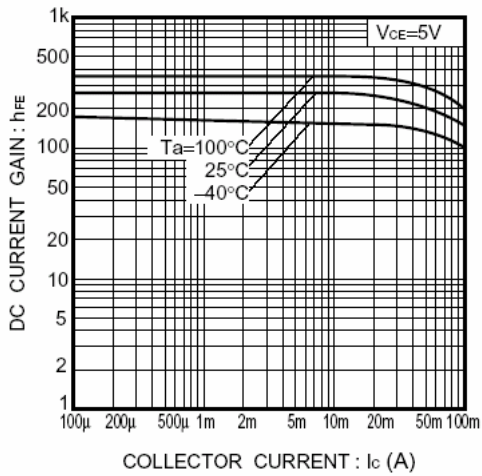
SOT-523



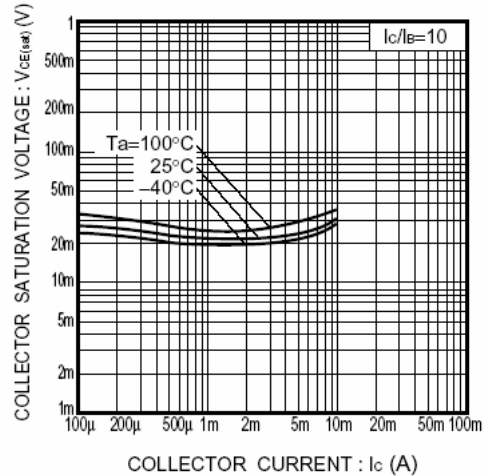
1. Base
 2. Emitter
 3. Collector



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

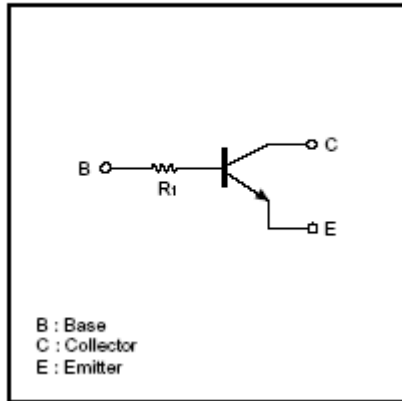


COLLECTOR CURRENT : I_c (A)
 Fig.1 DC current gain vs. collector current



COLLECTOR CURRENT : I_c (A)
 Fig.2 Collector-emitter saturation voltage vs. collector current

●Equivalent circuit





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Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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