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

Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
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MMBTA42

NPN Silicon High Voltage Transistor

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Capable of 300mWatts of Power Dissipation
- Continuous Collector Current : 300mA
- Marking:1D

Electrical Characteristics @ 25°C Unless Otherwise Specified

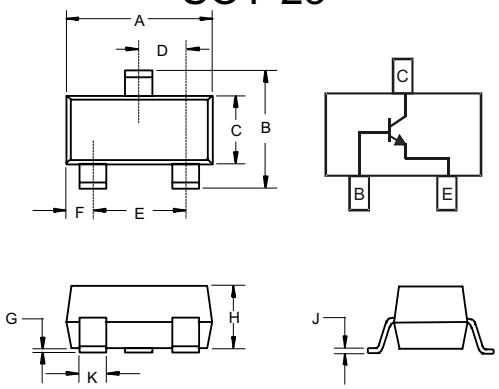
Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* (I_C=1.0mAdc, I_B=0)	300		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=100μAdc, I_E=0)	300		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=100μAdc, I_C=0)	6.0		Vdc
I_{CBO}	Collector Cutoff Current (V_{CB}=200Vdc, I_E=0)		0.1	uAdc
I_{EBO}	Emitter Cutoff Current (V_{EB}=6.0Vdc, I_C=0)		0.1	uAdc
ON CHARACTERISTICS				
h_{FE}	DC Current Gain* (I_C=1.0mAdc, V_{CE}=10Vdc) (I_C=10mAdc, V_{CE}=10Vdc) (I_C=30mAdc, V_{CE}=10Vdc)	25 40 40	----	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=20mAdc, I_B=2.0mAdc)		0.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage (I_C=20mAdc, I_B=2.0mAdc)		0.9	Vdc
SMALL-SIGNAL CHARACTERISTICS				
f_T	Current Gain-Bandwidth Product (I_C=10mAdc, V_{CE}=20Vdc, f=100MHz)	50		MHz
C_{cb}	Collector-Emitter Capacitance (V_{CB}=20Vdec, I_E=0, f=1.0MHz)		3.0	pF

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR–5 Board,(1) T_A = 25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate,(2) T_A = 25°C Derate above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	–55 to +150	°C

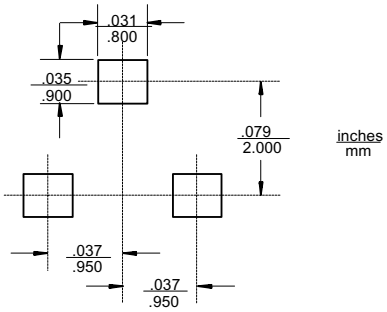
*Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

SOT-23



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



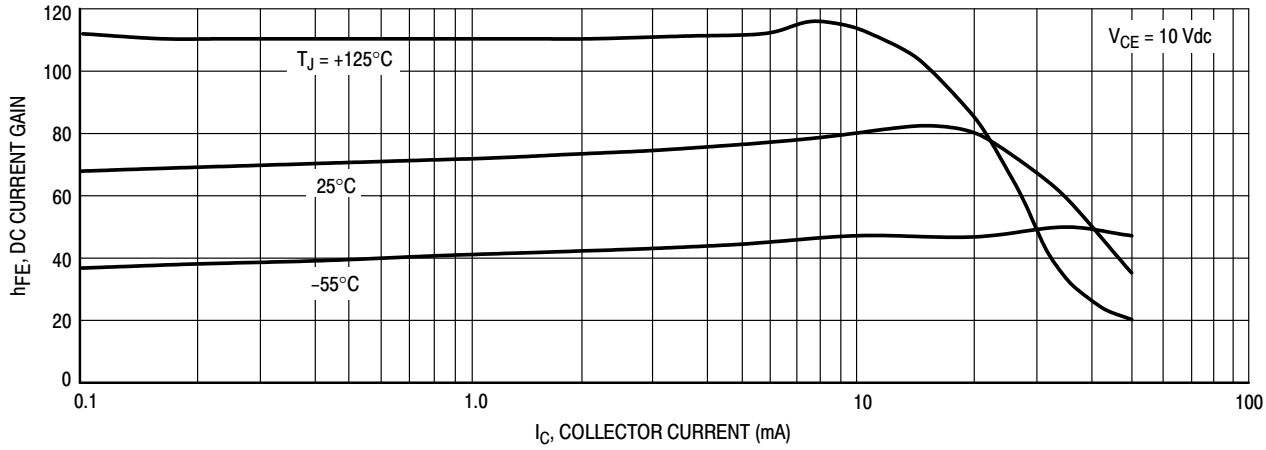


Figure 1. DC Current Gain

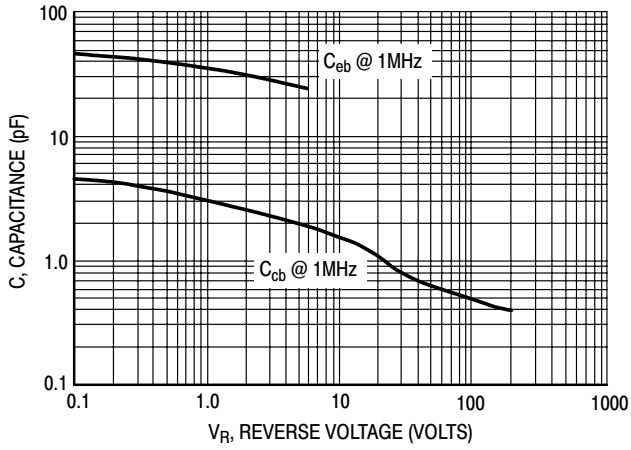


Figure 2. Capacitance

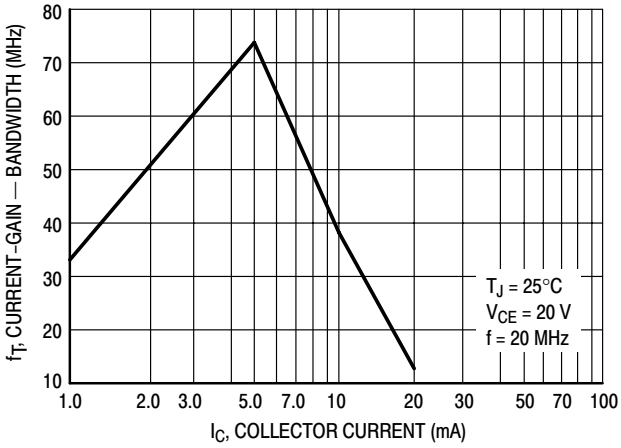
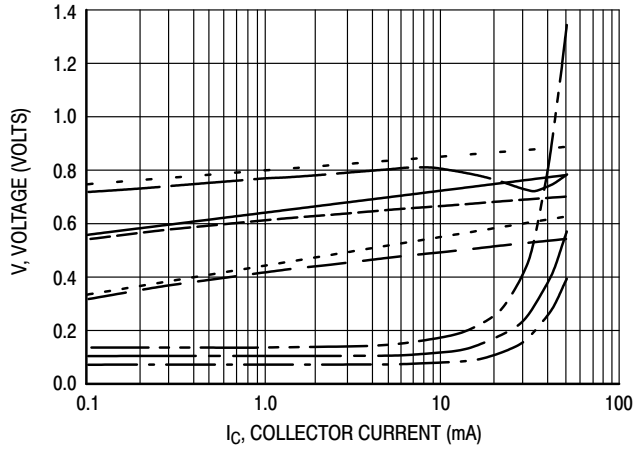


Figure 3. Current–Gain – Bandwidth



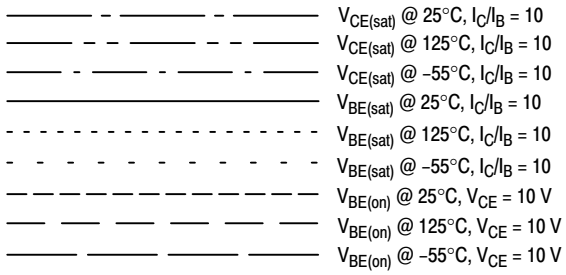


Figure 4. "ON" Voltages

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Ordering Information :

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

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

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