



Micro Commercial Components

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**2SC1623-L5**  
**2SC1623-L6**  
**2SC1623-L7**

## Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- High DC Current Gain:  $h_{FE}=600$  Max. ( $V_{CE}=6.0V$ ,  $I_C=1.0mA$ )
- High voltage:  $V_{CEO}=50V$
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

## Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5.0	V
$I_C$	Collector Current	100	mA
$P_C$	Collector power dissipation	200	mW
$T_J$	Junction Temperature	-55 to +150	°C
$T_{STG}$	Storage Temperature	-55 to +150	°C

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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### OFF CHARACTERISTICS

$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=60Vdc, I_E=0$ )	---	---	0.1	$\mu A_{dc}$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=5.0Vdc, I_C=0$ )	---	---	0.1	$\mu A_{dc}$

### ON CHARACTERISTICS

$h_F$	DC Current Gain* ( $I_C=1.0mA_{dc}, V_{CE}=6.0Vdc$ )	135	---	600	---
$V_{CE(sat)}$	Collector Saturation Voltage* ( $I_C=100mA_{dc}, I_B=10mA_{dc}$ )	---	0.15	0.3	Vdc
$V_{BE(sat)}$	Base Saturation Voltage* ( $I_C=100mA_{dc}, I_B=10mA_{dc}$ )	---	0.86	1.0	Vdc
$V_{BE}$	Base Emitter Voltage* ( $V_{CE}=6.0Vdc, I_C=1.0mA_{dc}$ )	0.55	0.62	0.65	Vdc
$C_{ob}$	Collector Capacitance ( $V_{CB}=6.0Vdc, I_E=0, f=1.0MHz$ )	---	3.0	---	pF
$f_T$	Gain Bandwidth product ( $V_{CE}=6.0Vdc, I_E=10mA_{dc}$ )	---	250	---	MHz

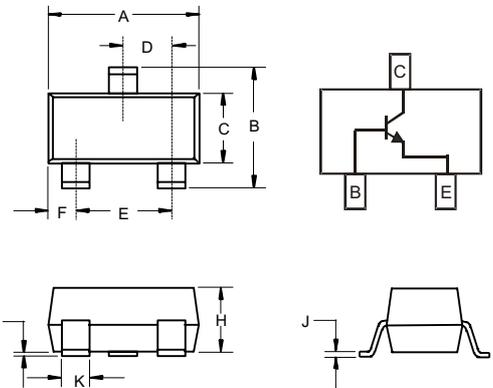
### $h_{FE}$ CLASSIFICATION

Marking	L5	L6	L7
$h_{FE}$	135-270	200-400	300-600

\* Pulse Test PW<350us, duty cycle<2%

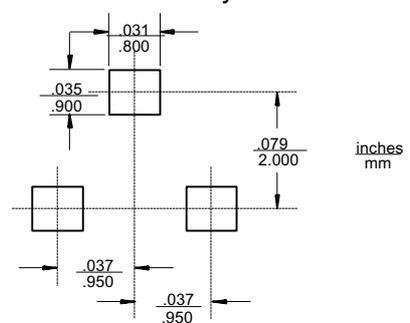
## NPN Silicon Epitaxial Transistors

### SOT-23



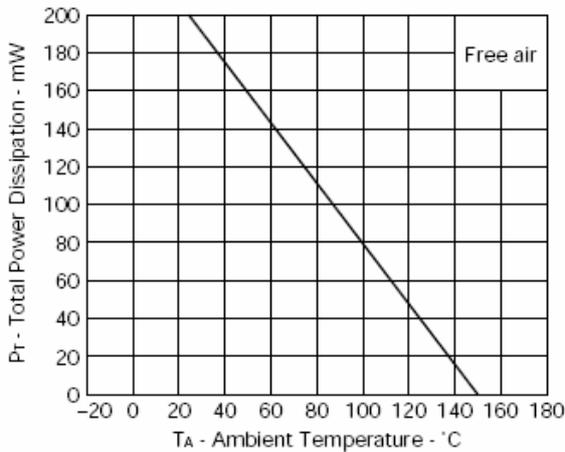
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout

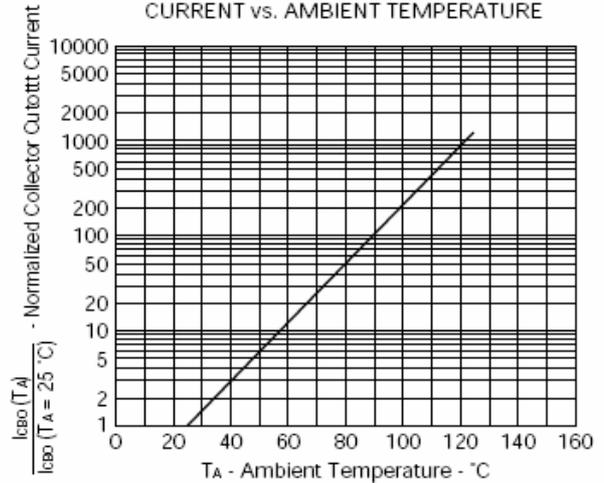


# Typical Characteristics

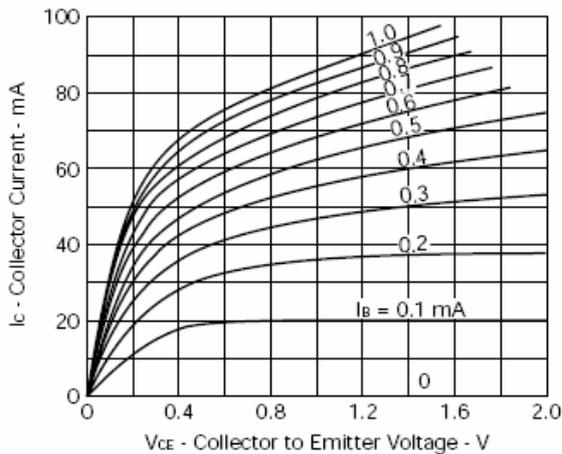
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



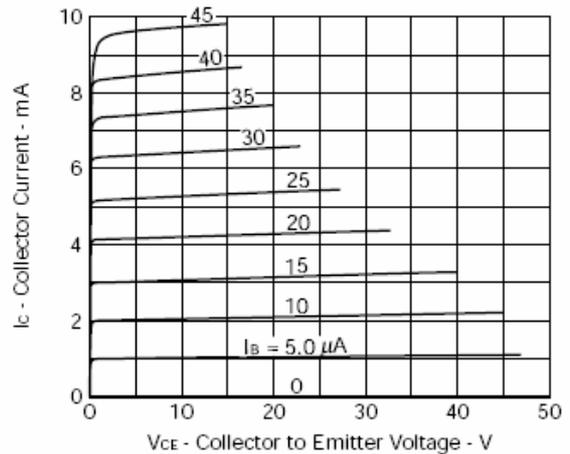
NORMALIZED COLLECTOR CUTOFF CURRENT vs. AMBIENT TEMPERATURE



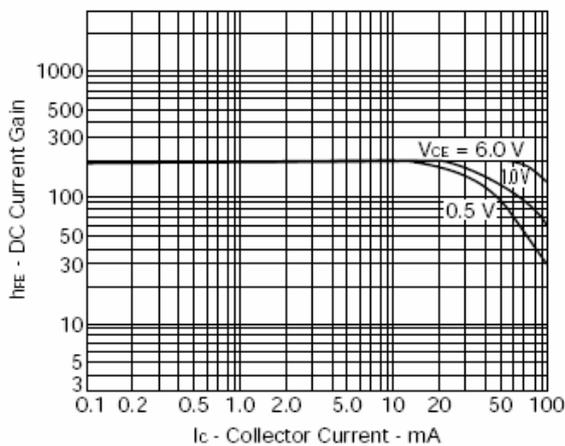
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



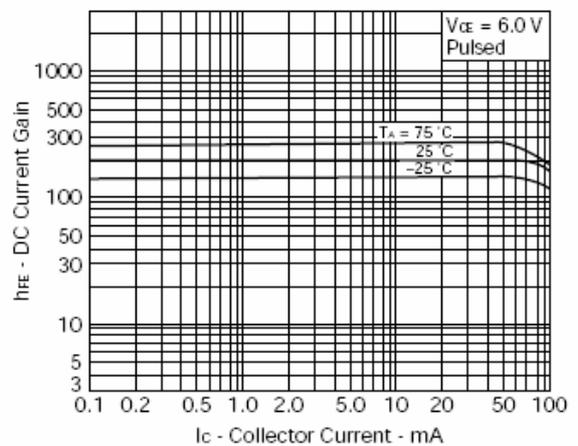
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



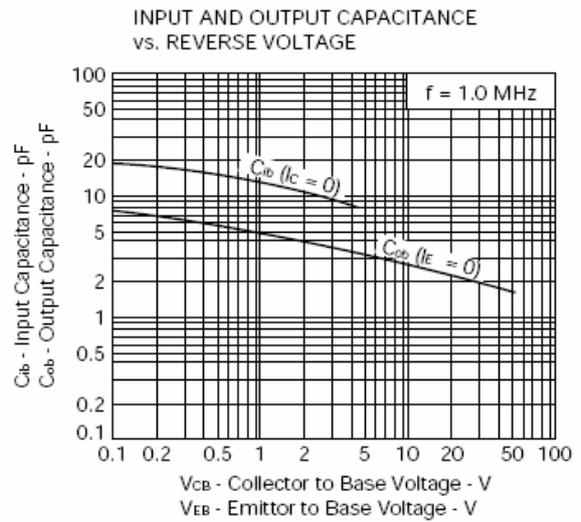
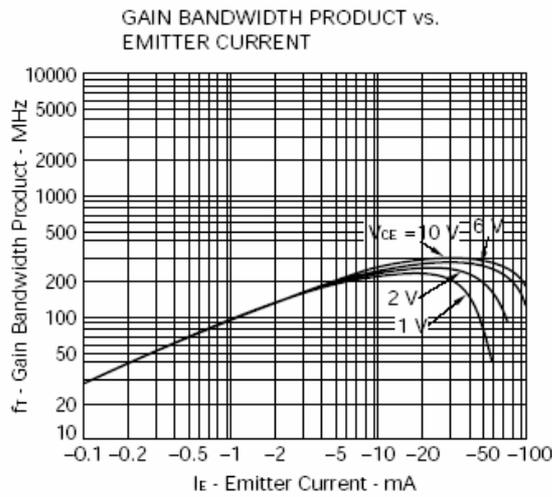
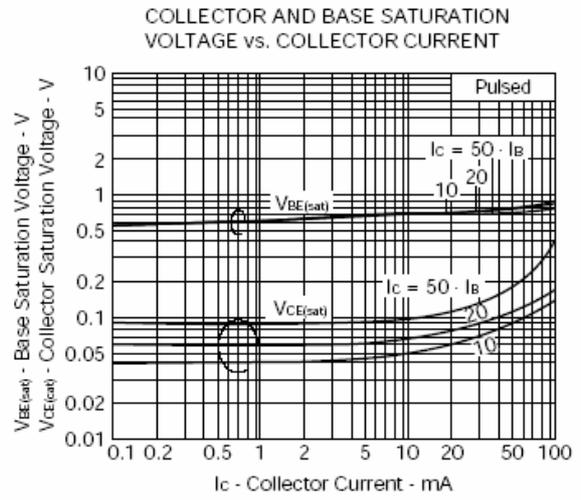
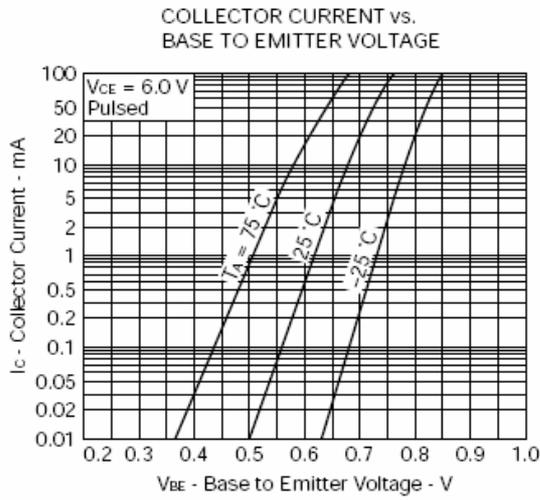
DC CURRENT GAIN vs. COLLECTOR CURRENT



DC CURRENT GAIN vs. COLLECTOR CURRENT



# Typical Characteristics





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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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