



Micro Commercial Components



Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

**MMBT5343-O**  
**MMBT5343-Y**  
**MMBT5343-G**  
**MMBT5343-L**

**NPN Silicon  
 Transistors**

## 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
- Low Collector Saturation Voltage:  $V_{CE(sat)}=0.25V(\text{Max.})$
- Low Output Capacitance:  $C_{ob}=2.0pF(\text{Typ.})$
- Marking : 5343
- Halogen free available upon request by adding suffix "-HF"

## 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	150	mA
$P_C$	Collector power dissipation	200	mW
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}C$

## Electrical Characteristics @ 25 $^{\circ}C$ Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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### OFF CHARACTERISTICS

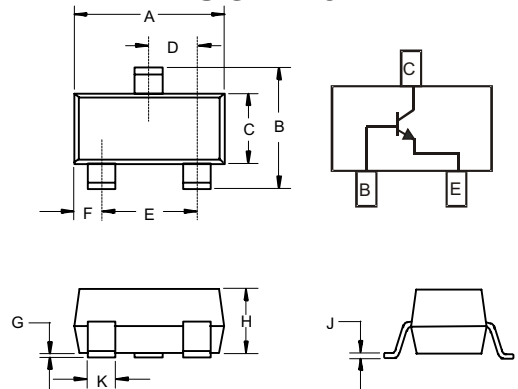
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\mu A, I_B=0$ )	60	---	---	Vdc
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=10mA, I_B=0$ )	50	---	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=10\mu A, I_C=0$ )	5.0	---	---	Vdc
$I_{CBO}$	Collector-Base Cutoff Current ( $V_{CB}=60Vdc, I_E=0$ )	---	---	0.1	$\mu A$
$I_{EBO}$	Emitter-Base Cutoff Current ( $V_{EB}=5.0Vdc, I_C=0$ )	---	---	0.1	$\mu A$

### ON CHARACTERISTICS

$h_{FE}$	Forward Current Transfer ratio* ( $I_C=2.0mA, V_{CE}=6.0Vdc$ )	70	---	700	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=100mA, I_B=10mA$ )	---	---	0.25	Vdc
$f_T$	Transition Frequency ( $V_{CE}=10Vdc, I_C=1.0mA$ )	80	---	---	MHz
$C_{ob}$	Collector Output Capacitance ( $V_{CB}=10Vdc, I_E=0, f=1.0MHz$ )	---	2.0	3.5	pF
NF	Noise Figure ( $V_{CE}=6.0Vdc, I_C=0.1mA, f=1.0KHz, R_g=10K\Omega$ )	---	---	10	dB

\*  $h_{FE}$  rank / O: 70-140, Y:120-240, G:200-400, L:300-700

## SOT-23



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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

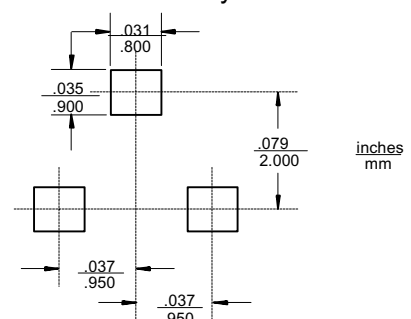


Fig. 1  $P_C - T_a$

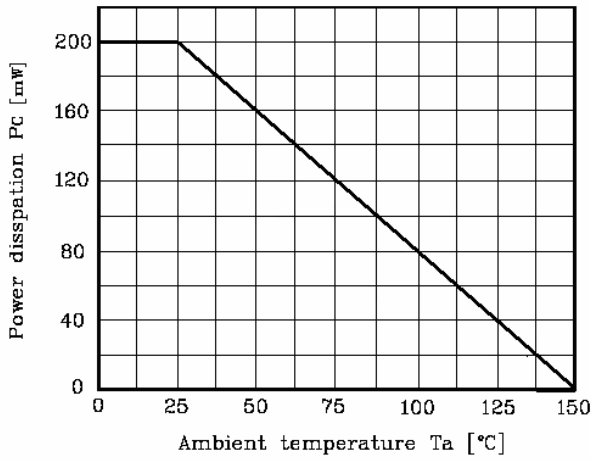


Fig. 2  $I_C - V_{BE}$

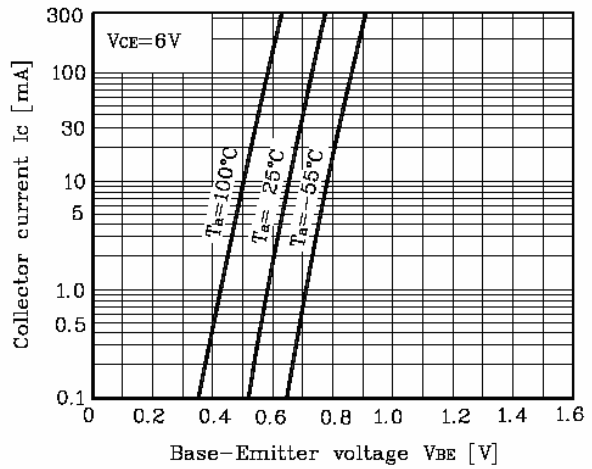


Fig. 3  $I_C - V_{CE}$

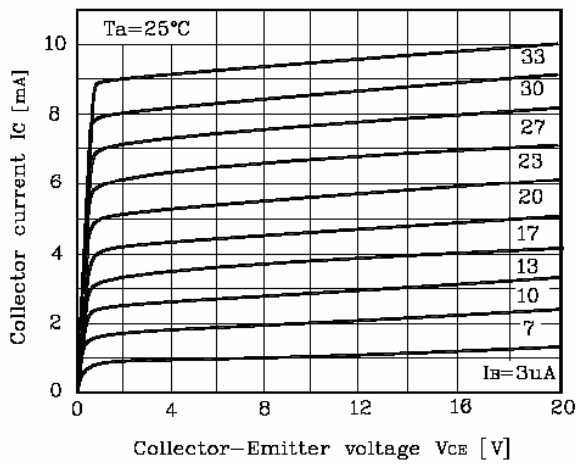


Fig. 4  $h_{FE} - I_C$

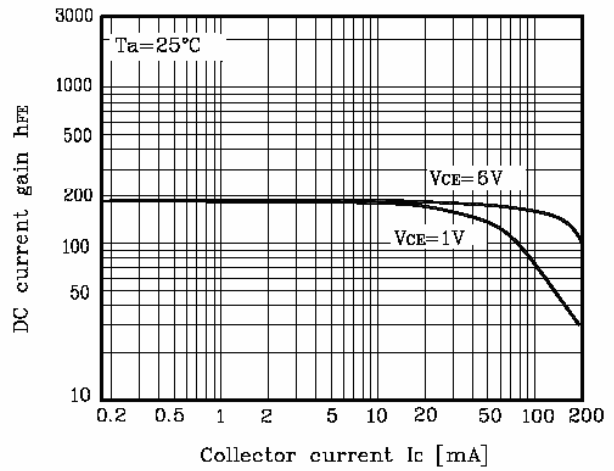
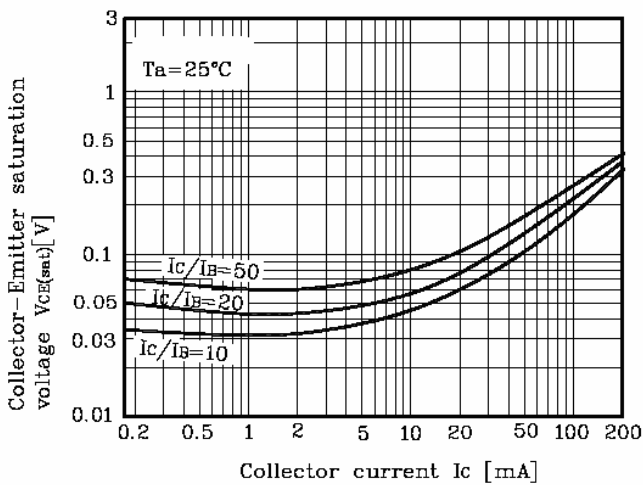


Fig. 5  $V_{CE(sat)} - I_C$





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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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