

# SMBT5551-TP Datasheet

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DiGi Electronics Part Number	SMBT5551-TP-DG
Manufacturer	<a href="#">Micro Commercial Co</a>
Manufacturer Product Number	SMBT5551-TP
Description	Interface
Detailed Description	Bipolar (BJT) Transistor Array 2 NPN 160V 600mA 30 0MHz 300mW Surface Mount SOT-23-6L



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## Purchase and inquiry

Manufacturer Product Number:

SMBT5551-TP

Series:

-

Transistor Type:

2 NPN

Voltage - Collector Emitter Breakdown (Max):

160V

Current - Collector Cutoff (Max):

50nA (ICBO)

Power - Max:

300mW

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

SOT-23-6

Base Product Number:

SMBT5551

Manufacturer:

Micro Commercial Co

Product Status:

Active

Current - Collector (Ic) (Max):

600mA

Vce Saturation (Max) @ Ib, Ic:

200mV @ 5mA, 50mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

100 @ 10mA, 5V

Frequency - Transition:

300MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-23-6L

## Environmental & Export classification

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

ECCN:

EAR99

### Features

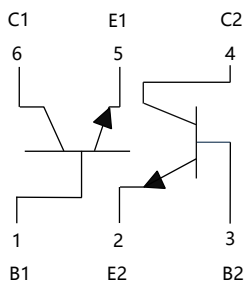
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 416°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	180	V
Collector-Emitter Voltage	$V_{CEO}$	160	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	600	mA
Collector Power Dissipation	$P_C$	300	mW

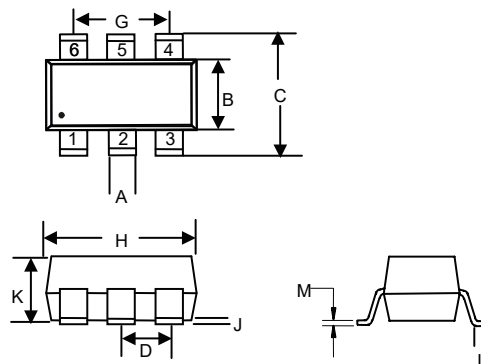
### Internal Structure



Marking: 5551S

## NPN General Purpose Amplifier

### SOT23-6L



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.012	0.020	0.30	0.50	
B	0.051	0.070	1.30	1.80	
C	0.087	0.126	2.20	3.20	
D	0.037		0.95		TYP.
G	0.074		1.90		TYP.
H	0.106	0.122	2.70	3.10	
J	0.002	0.006	0.05	0.15	
K	0.030	0.051	0.75	1.30	
L	0.012	0.024	0.30	0.60	
M	0.003	0.008	0.08	0.22	

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	180			V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	160			V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=10\mu A, I_C=0$
Collector-Base Cutoff Current	$I_{CBO}$			50	nA	$V_{CB}=120V, I_E=0$
Emitter-Base Cutoff Current	$I_{EBO}$			50	nA	$V_{EB}=4V, I_C=0$
DC Current Gain (Note1)	$h_{FE(1)}$	80				$V_{CE}=5V, I_C=1mA$
	$h_{FE(2)}$	100		250		$V_{CE}=5V, I_C=10mA$
	$h_{FE(3)}$	30				$V_{CE}=5V, I_C=50mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.15	V	$I_C=10mA, I_B=1mA$
				0.2	V	$I_C=50mA, I_B=5mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.0	V	$I_C=10mA, I_B=1mA$
				1.0	V	$I_C=50mA, I_B=5mA$
Transition Frequency	$f_T$	100		300	MHz	$V_{CE}=10V, I_C=10mA, f=100MHz$
Collector Output Capacitance	$C_{ob}$			6	pF	$V_{CB}=10V, I_E=0, f=1MHz,$

Note: 1. Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

### Curve Characteristics

Fig. 1 - Static Characteristics

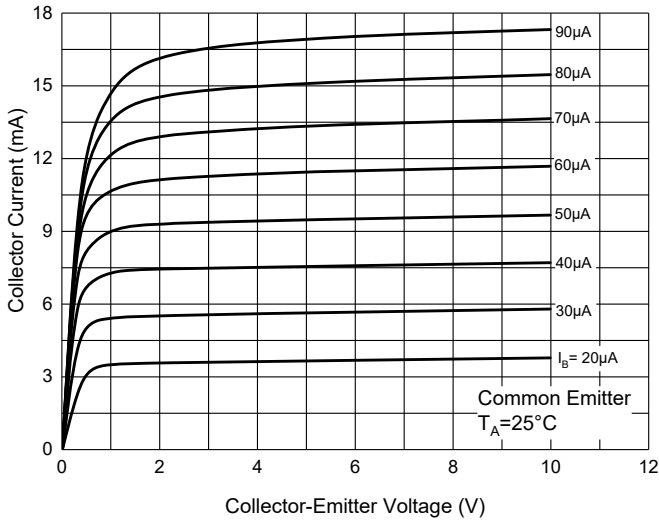


Fig. 2 - DC Current Gain Characteristics

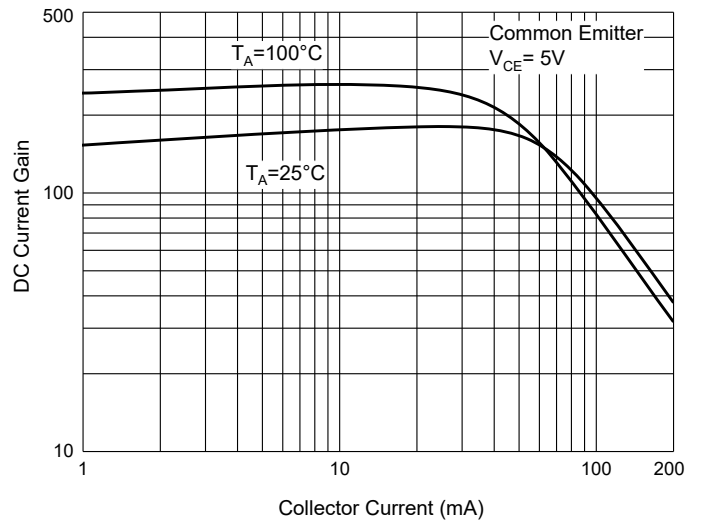


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

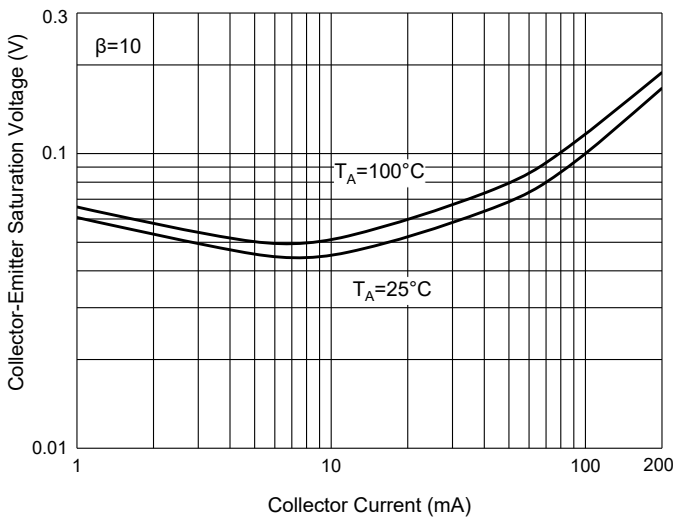


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

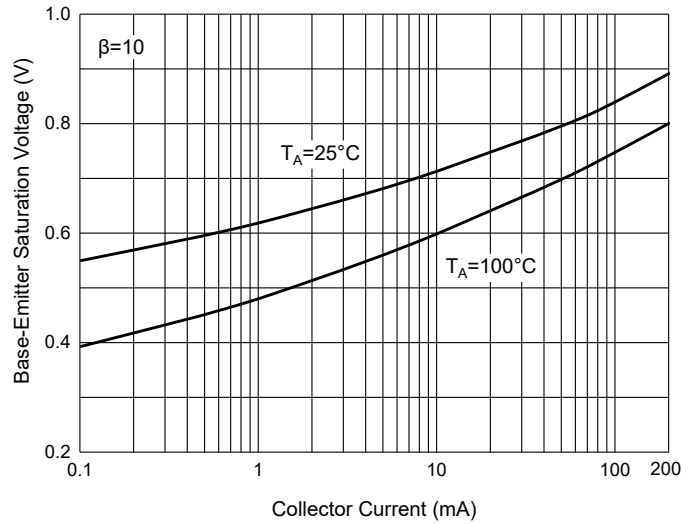


Fig. 5 - Base-Emitter Voltage Characteristics

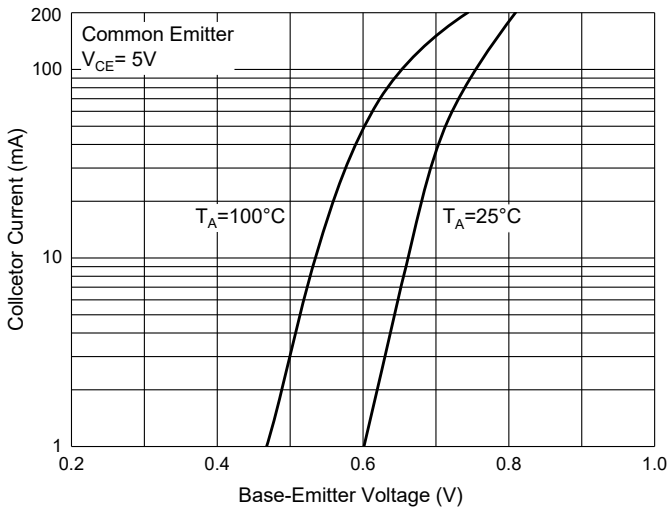
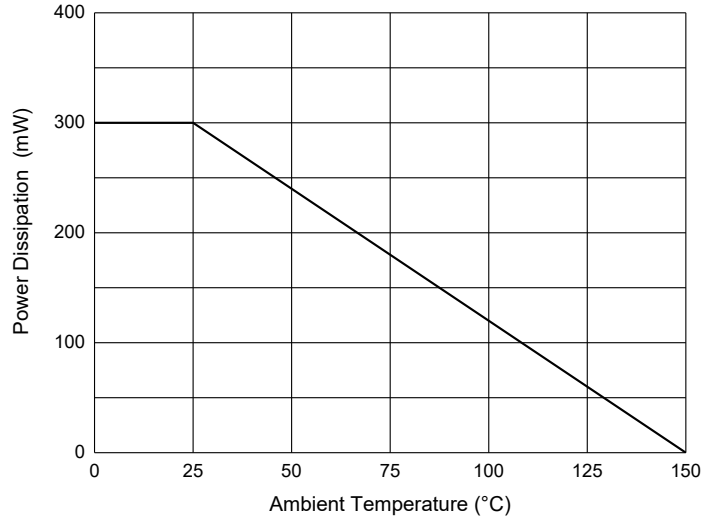


Fig. 6 - Power Derating Curve



## Ordering Information

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

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