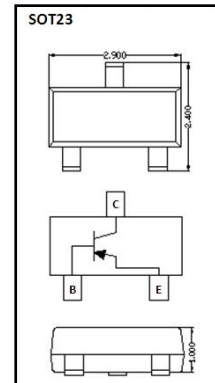


## DATA SHEET

## S8550

- ◇ Capable of 300mWatts of Power Dissipation
- ◇ Operating and Storage Junction Temperatures:  $-55^{\circ}\text{C}$  to  $150^{\circ}\text{C}$
- ◇ Surface Mount SOT-23 Package
- ◇ RoHS compliant / Green EMC
- ◇ Collector current:  $I_C=0.5\text{A}$

Device Marking Code	
S8550	2TY



## MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	-40	V
$V_{CE0}$	Collector-Emitter Voltage	-25	V
$V_{EB0}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-500	mA
$P_C$	Collector Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	417	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	$-55 \sim +150$	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS @ 25° C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
$V_{CE0}$	Collector-emitter breakdown voltage	$I_C=-1\text{mA}, I_B=0$	-25		V
$V_{CB0}$	Collector-base breakdown voltage	$I_C=-100\mu\text{A}, I_E=0$	-40		V
$V_{EB0}$	Emitter-base breakdown voltage	$I_E=-100\mu\text{A}, I_C=0$	-5.0		V
$I_{CB0}$	Collector cutoff current	$V_{CB}=-40\text{V}, I_E=0\text{V}$		-100	nA
$I_{EB0}$	Emitter cut-off current	$V_{EB}=-3\text{V}, I_C=0$		-100	nA

$I_{CEO}$	Collector cut-off current	$V_{CE}=-20V, I_B=0$		-100	nA
$h_{FE}$	DC current gain	$h_{FE(1)} I_C=-50mA, V_{CE}=-1V$ $h_{FE(2)} I_C=-500mA, V_{CE}=-1V$	120 50	400	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=-500mA, I_B=-50mA$		-0.6	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=-500mA, I_B=-50mA$		-1.2	V
$f_T$	Transition frequency	$I_C=-20mA,$ $V_{CE}=-6V, f=30MHz$	150		MHZ

CLASSIFICATION OF  $h_{FE(1)}$ 

Rank	L	H
Range	120-200	200-350

Curve Characteristics

Fig. 1 - Static Characteristics

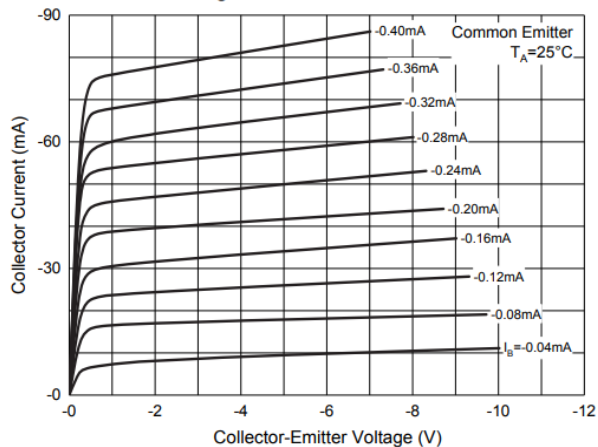


Fig. 2 - DC Current Gain Characteristics

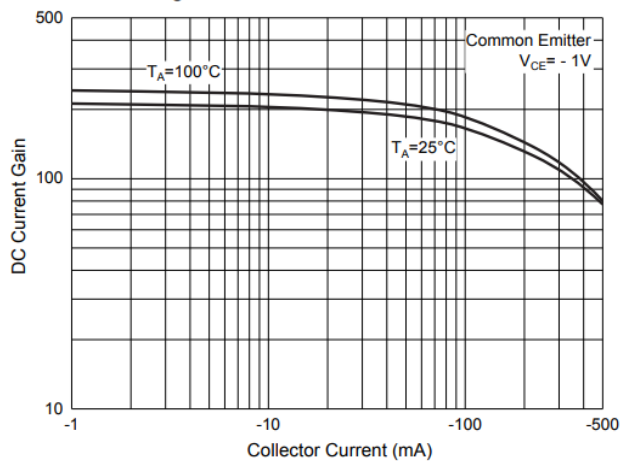


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

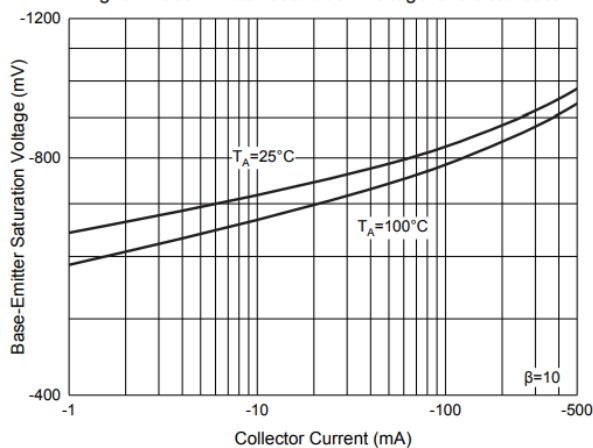


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

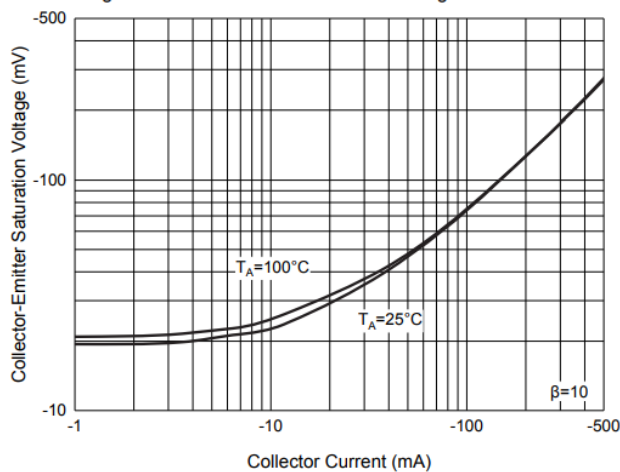


Fig. 5 - Base-Emitter Voltage Characteristics

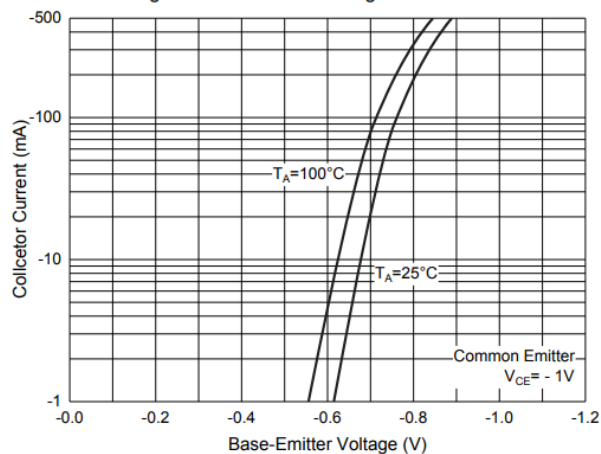
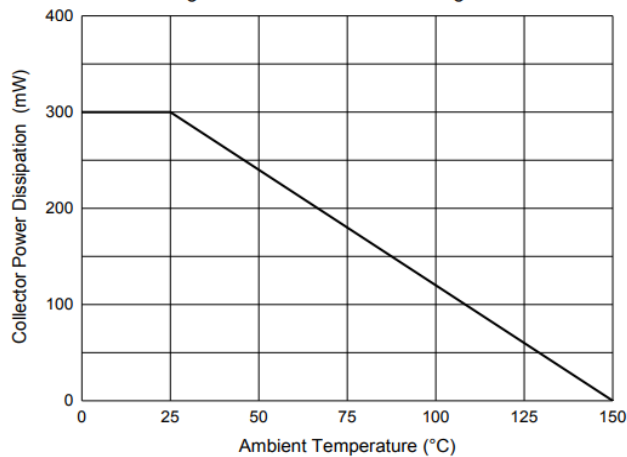


Fig. 6 - Collector Power Derating Curve



**ORDERING INFORMATION**

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
S8550	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

**PACKAGE DIMENSIONS**

**Package Outline : SOT23**

Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.090	0.180
K	0.370	0.510

**SOT23 Package Outline**

**Note:**  
 1. Halogen free ,EMC  
 2. Pb free solder  
 3. Lead thickness solder plating  
 4. Lead frame CAC-5  
 5. Other Tolerance  $\pm 0.05$   
 6. Dimensions are exclusive of Burrs Mold Flash and Tie Bar extrusions  
 7. Unit :mm

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