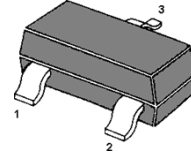


## MMBTSC2785 NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups O, Y, G and L, according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.



1.Base 2.Emitter 3.Collector  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	60	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	150	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature Range	$T_S$	-55 to +150	$^{\circ}\text{C}$

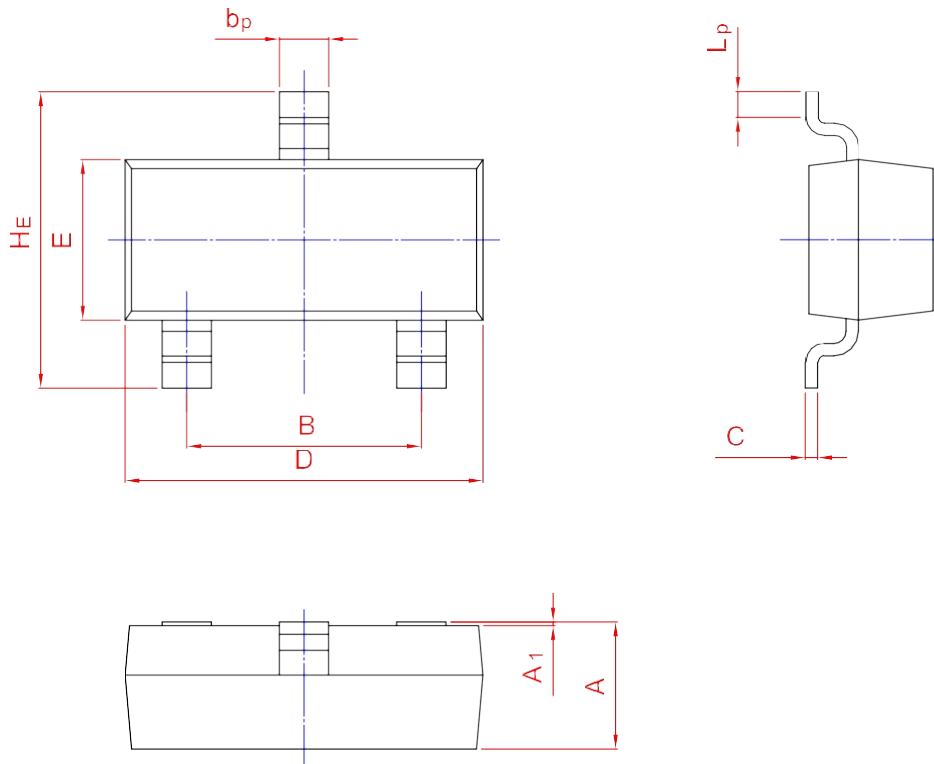
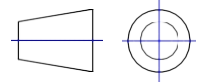
Characteristics at  $T_{amb}=25\text{ }^{\circ}\text{C}$ 

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE}=6\text{V}$ , $I_C=1\text{mA}$  Current Gain Group	O	$h_{FE}$	70	-	140	-
	Y	$h_{FE}$	120	-	240	-
	G	$h_{FE}$	200	-	400	-
	L	$h_{FE}$	350	-	700	-
Collector Base Breakdown Voltage at $I_C=100\mu\text{A}$	$V_{(BR)CBO}$	60	-	-	V	
Collector Emitter Breakdown Voltage at $I_C=10\text{mA}$	$V_{(BR)CEO}$	50	-	-	V	
Emitter Base Breakdown Voltage at $I_E=10\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V	
Collector Cutoff Current at $V_{CB}=40\text{V}$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	
Emitter Cutoff Current at $V_{EB}=3\text{V}$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$	
Collector Saturation Voltage at $I_C=100\text{mA}$ , $I_B=10\text{mA}$	$V_{CE(sat)}$	-	-	0.3	V	
Gain Bandwidth Product at $V_{CE}=6\text{V}$ , $I_C=10\text{mA}$	$f_T$	-	300	-	MHz	
Output Capacitance at $V_{CB}=6\text{V}$ , $f=1\text{MHz}$	$C_{OB}$	-	2.5	-	pF	
Noise Figure at $V_{CE}=6\text{V}$ , $I_E=0.5\text{mA}$ , $f=1\text{KHz}$ , $R_S=500\Omega$	NF	-	4	-	dB	

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b <sub>p</sub>	C	D	E	H <sub>E</sub>	A1	L <sub>p</sub>
mm	1.40	2.04	0.50	0.19	2.70	3.10	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	1.20	1.65	2.20	0.013	0.20