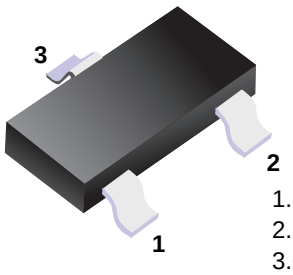
PNP Silicon Epitaxial Planar Transistor

For switching and general purpose applications.

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



1.Base
2.Emitter
3.Collector

SOT-23

FEATURES

- Excellent h_{FE} linearity:
- h_{FE}=25(min) at V_{CE}=-6V, I_C=-400mA

Absolute Maximum Ratings (Ta = 25°C)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-35	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-500	mA
Base Current	I_B	-50	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-55-+150	℃

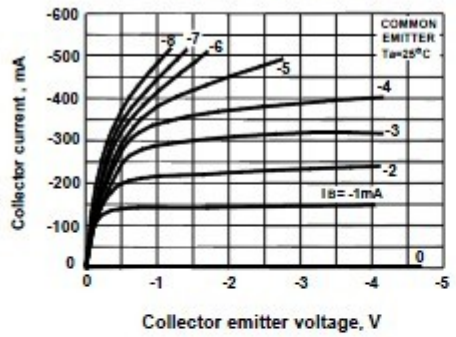
Characteristics at T_{amb}=25 °C

Parameter	Symbols	Test Condition		Limits			Unit
				Min	Typ	Max	
DC Current Gain	$h_{FE(1)}$	V_{CE}=-1V,I_C= -100mA	O	70		140	
	$h_{FE(1)}$		Y	120		240	
Current Gain Group	$h_{FE(1)}$		G	200		400	
	$h_{FE(2)}$	V_{CE}=-6V,I_C= -400mA		25		-	
Collector Cutoff Current	I_{CBO}	V_{CB}= -35 V		-	-	-0.1	μA
Emitter Cutoff Current at	I_{EBO}	V_{EB}= - 5V		-	-	-0.1	μA
Collector Saturation Voltage	$V_{CE(sat)}$	Ic= -100mA, I_B= -10mA		-		-0.25	V
Base Emitter Voltage	V_{BE}	V_{CE}=-1V, Ic= -100mA		-	-	-1	V
Transition Frequency	f_T	V_{CE}= - 6V, I_C= - 20mA		-	200	-	MHz
Collector Output Capacitance	Cob	V_{CB}= - 6V, f=1MHz		-	13	-	pF

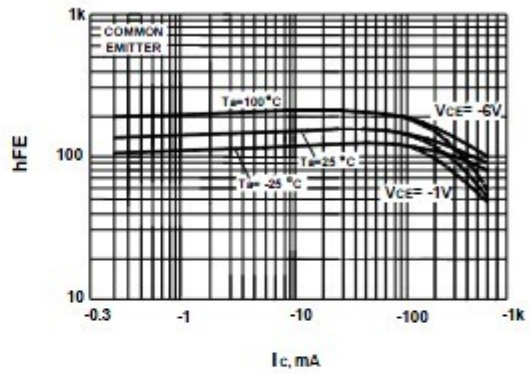
CLASSIFICATION OF $h_{FE(1)}$

Rank	MMBTSA1505-O	MMBTSA1505-Y	MMBTSA1505-G
Range	70-140	120-240	200-400
Marking	AZO	AZY	AZG

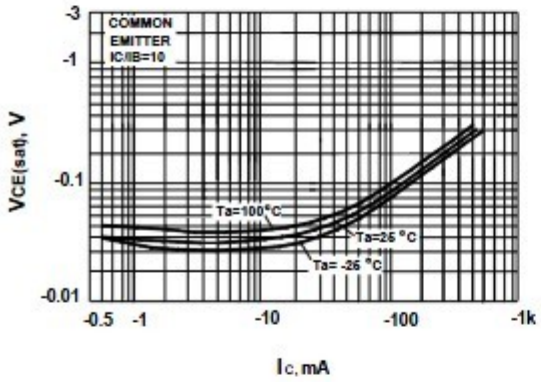
Ic - VCE(LOW VOLTAGE REGION)



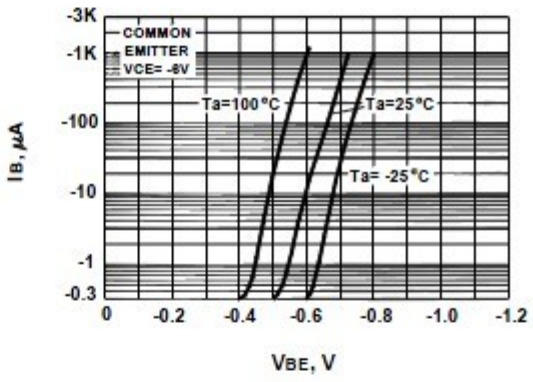
hFE - Ic



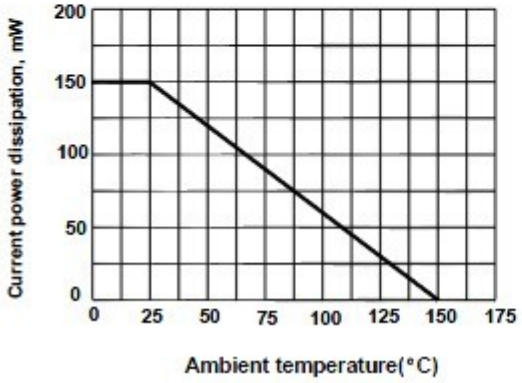
VCE(sat) - IC



IB - VBE



Pc - Ta

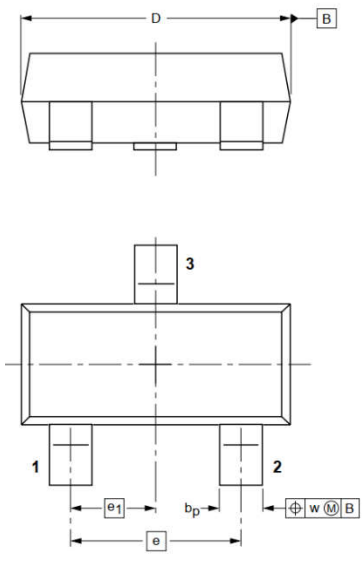


Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

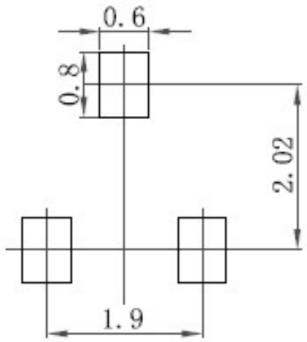
Package Dimensions

SOT-23



Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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