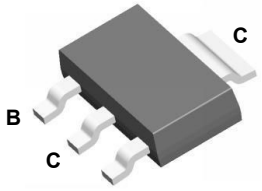
GOOD-ARK
SEMICONDUCTOR

GSBCP54-55-56
NPN Transistor

Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage Complementary types:
- GSBCP51/GSBCP52/GSBCP53 (PNP)



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Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Rating			Unit
		GSBCP54	GSBCP55	GSBCP56	
Collector-Base Voltage	V_{CBO}	45	60	100	V
Collector-Emitter Voltage	V_{CEO}	45	60	80	V
Emitter-Base Voltage	V_{EBO}	5			V
Collector Current -Continuous	I_C	1			A
Collector Power Dissipation	P_C	1.5			W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	83.3			℃/W
Storage Temperature Range	T_{STG}	-65 to +150			℃

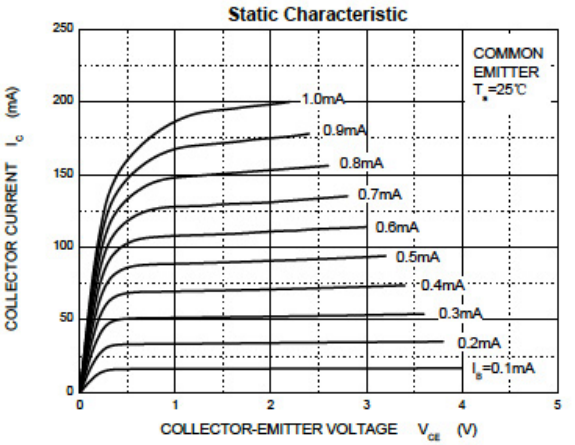
Electrical Characteristics (T_A=25°C unless otherwise noted)

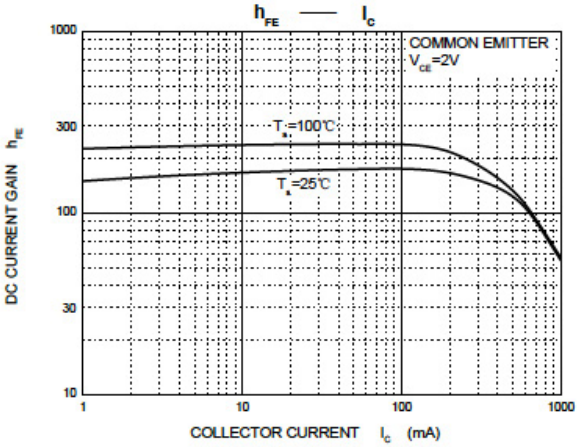
Parameter		Symbol	Test Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	GSBCP54 GSBCP55 GSBCP56	$V_{(BR)CBO}$	I_C=0.1mA,I_E=0	45 60 100	-	V
Collector-Emitter Breakdown Voltage	GSBCP54 GSBCP55 GSBCP56	$V_{(BR)CEO}$	I_C=10mA,I_B =0	45 60 80	-	V
Base-Emitter Breakdown Voltage		$V_{(BR)EBO}$	I_E=10μA,I_C=0	5	-	V
Collector Cut-Off Current		I_{CBO}	V_{CB}=30 V, I_E=0	-	100	nA
DC Current Gain		$h_{FE(1)}$	V_{CE}=2V, I_C=5mA	25	-	-
		$h_{FE(2)}$	V_{CE}=2V, I_C=150mA	63	250	-
		$h_{FE(3)}$	V_{CE}=2V, I_C=500mA	25	-	-
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=500mA,I_B=50mA	-	0.5	V
Base-Emitter Voltage		V_{BE}	V_{CE}=2V, I_C=500mA	-	1	V
Transition Frequency		f_T	V_{CE}=10V,I_C=50 mA,f=100MHz	100	-	MHz

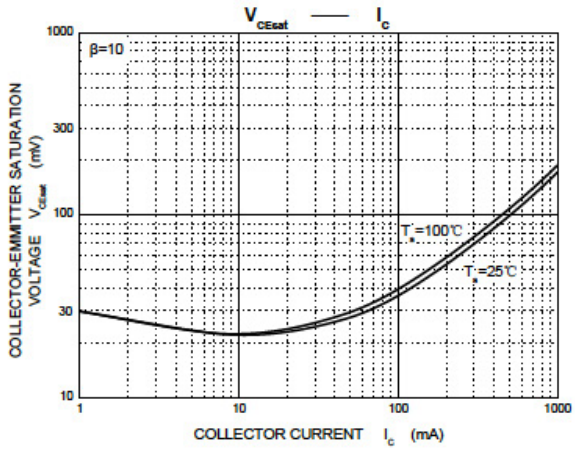
Classification of $h_{FE(2)}$

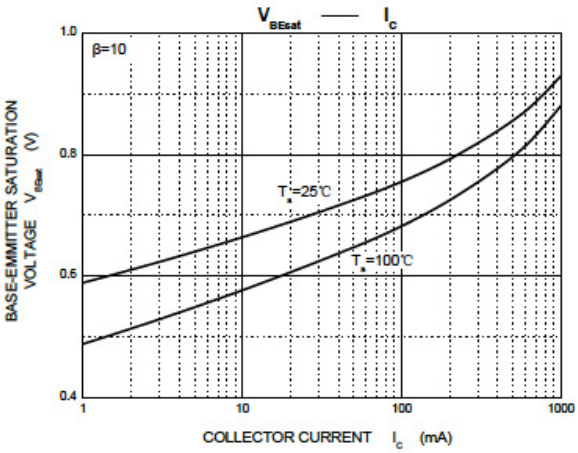
Rank	GSBCP54-10, GSBCP55-10, GSBCP56-10	GSBCP54-16, GSBCP55-16, GSBCP56-16
Range	63-160	100-250

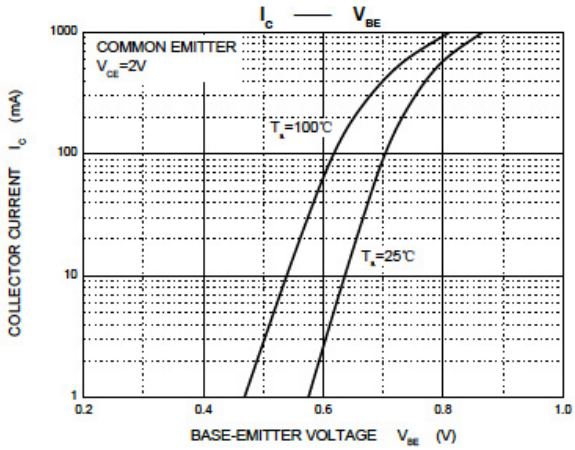
Typical Electrical Characteristic Curves

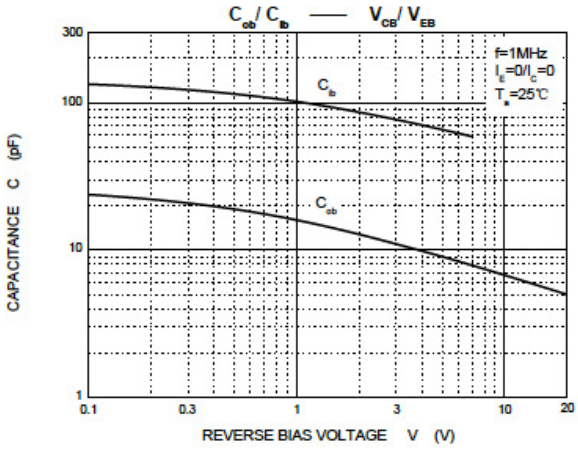












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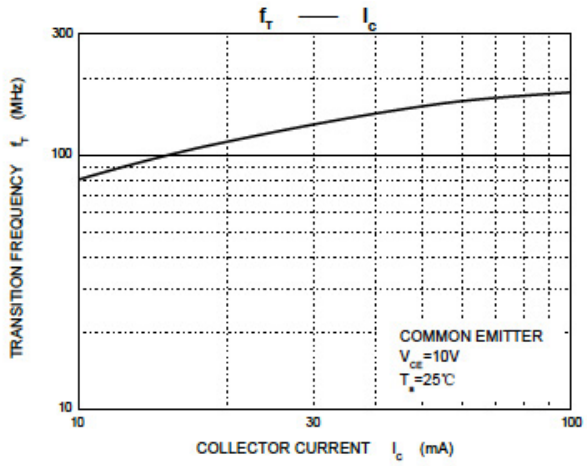

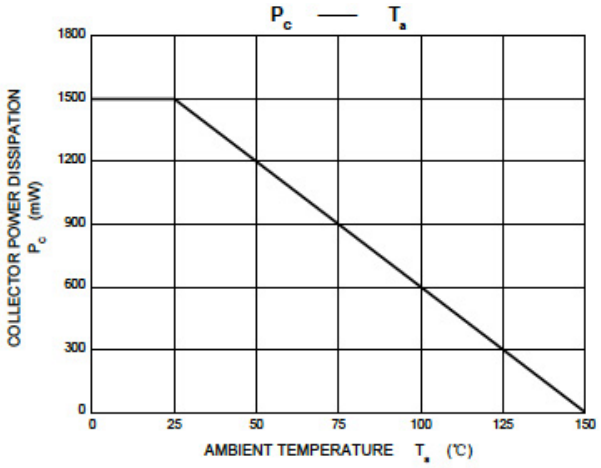

Package Outline Dimensions

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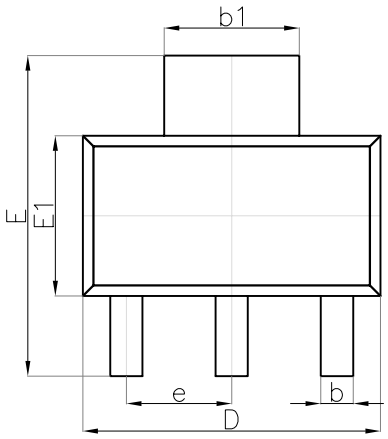
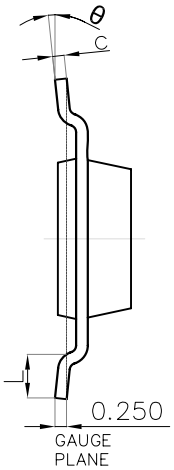
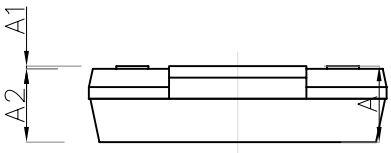
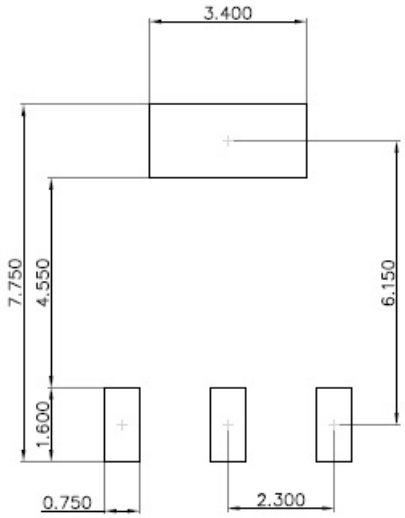






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	——	1.800	——	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	——	0.030	——
θ	0°	10°	0°	10°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.050mm.
3.The pad layout is for reference purposes only.

Marking and Ordering Information

Device	Package	Marking	Quantity	HSF Status
GSBCP54-10	SOT-223	BCP54-10	2,500 pcs / Reel	RoHS Compliant
GSBCP55-10	SOT-223	BCP55-10	2,500 pcs / Reel	RoHS Compliant
GSBCP56-10	SOT-223	BCP56-10	2,500 pcs / Reel	RoHS Compliant
GSBCP54-16	SOT-223	BCP54-16	2,500 pcs / Reel	RoHS Compliant
GSBCP55-16	SOT-223	BCP55-16	2,500 pcs / Reel	RoHS Compliant
GSBCP56-16	SOT-223	BCP56-16	2,500 pcs / Reel	RoHS Compliant