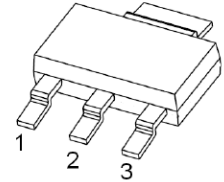


Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: GSBCP54/GSBCP55/GSBCP56 (NPN)



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- 1. BASE
- 2. COLLECTOR
- 3. EMITTER

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Rating			Unit
		GSBCP51	GSBCP52	GSBCP53	
Collector-Base Voltage	V_{CB0}	-45	-60	-100	V
Collector-Emitter Voltage	V_{CE0}	-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	$R_{\theta JA}$	94			$^{\circ}\text{C/W}$
Storage Temperature Range	T_{STG}	-65 to +150			$^{\circ}\text{C}$

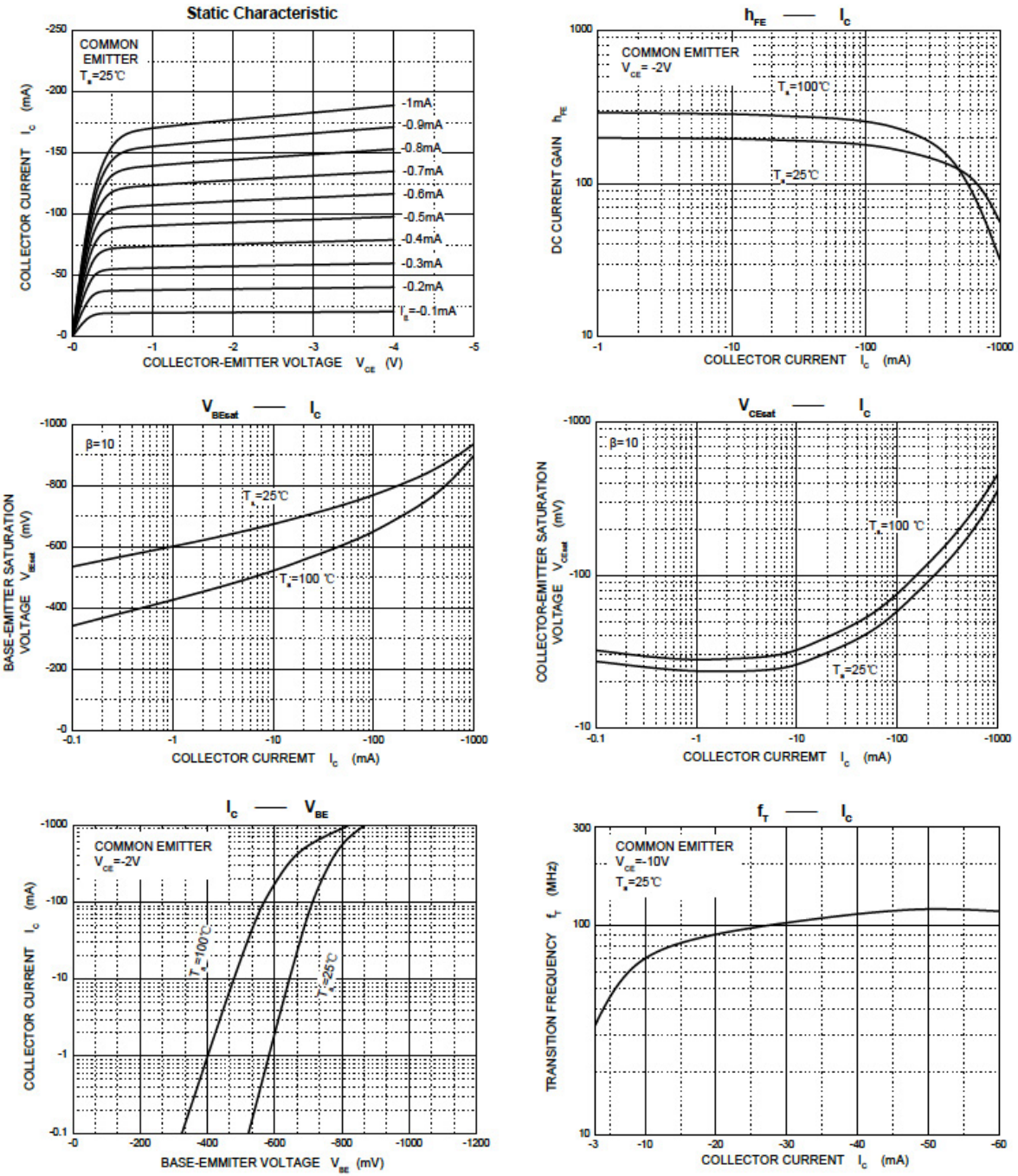
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Test Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	GSBCP51	$V_{(BR)CBO}$	$I_C = -0.1\text{mA}, I_E = 0$	-45	-	V
	GSBCP52			-60		
	GSBCP53			-100		
Collector-Emitter Breakdown Voltage	GSBCP51	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-45	-	V
	GSBCP52			-60		
	GSBCP53			-80		
Base-Emitter Breakdown Voltage		$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5	-	V
Collector Cut-Off Current		I_{CBO}	$V_{CB} = -30\text{V}, I_E = 0$	-	-100	nA
DC Current Gain		$h_{FE(1)}$	$V_{CE} = -2\text{V}, I_C = -5\text{mA}$	25	-	-
		$h_{FE(2)}$	$V_{CE} = -2\text{V}, I_C = -150\text{mA}$	63	250	-
		$h_{FE(3)}$	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	25	-	-
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-0.5	V
Base-Emitter Voltage		V_{BE}	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	-	-1	V
Transition Frequency		f_T	$V_{CE} = -10\text{V}, I_C = -50\text{mA}, f = 100\text{MHz}$	100	-	MHz

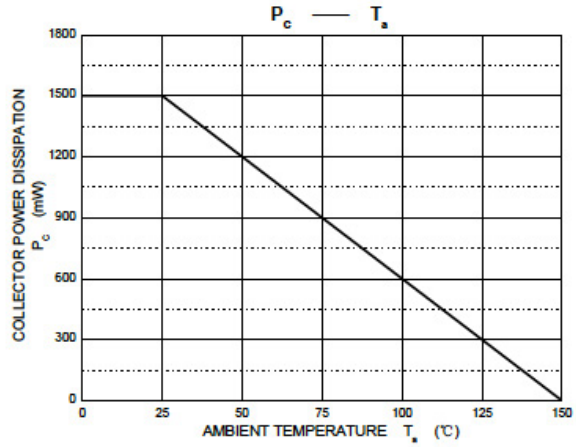
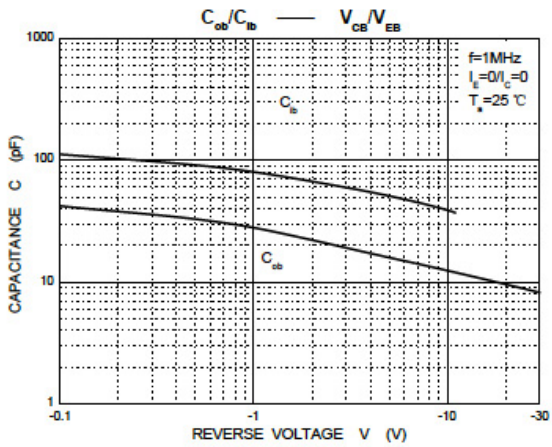
Classification of $h_{FE(2)}$

Rank	GSBCP51-10, GSBCP52-10, GSBCP53-10	GSBCP51-16, GSBCP52-16, GSBCP53-16
Range	63-160	100-250

Typical Electrical Characteristic Curves

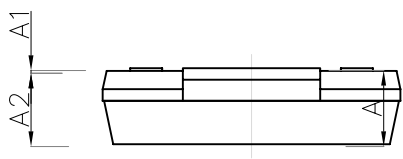
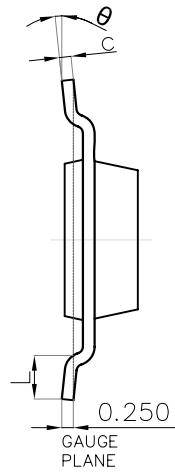
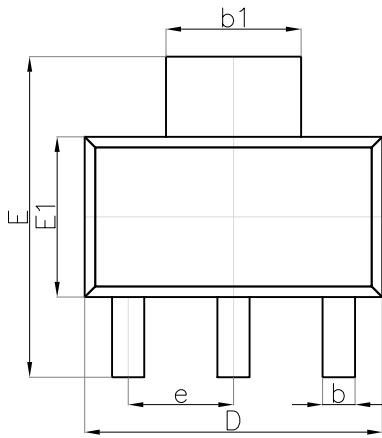


Typical Electrical Characteristic Curves



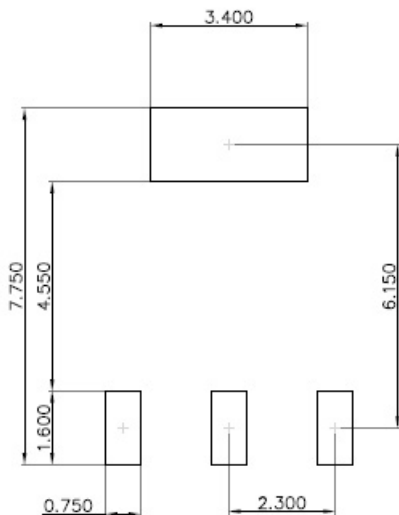
Package Outline Dimensions

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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: ± 0.050 mm.
3. The pad layout is for reference purposes only.