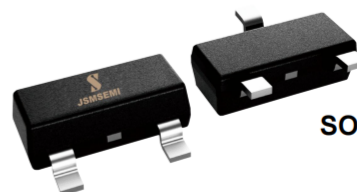


■ Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary to BCP54,BCP55,BCP56


SOT-223

1. BASE
2. COLLECTOR
3. EMITTER

■ Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	BCP51	BCP52	BCP53	Unit
Collector - Base Voltage	V _{CBO}	-45	-60	-100	V
Collector - Emitter Voltage	V _{CEO}	-45	-60	-80	
Emitter - Base Voltage	V _{EBO}	-5			
Collector Current - Continuous	I _C	-1			A
Collector Power Dissipation	P _C	1.5			W
Thermal Resistance Junction to Ambient	R _{θJA}	94			°C/W
Junction Temperature	T _J	150			°C
Storage Temperature Range	T _{stg}	-65 to 150			

■ Electrical Characteristics $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BCP51	$I_C = -100\mu\text{A}, I_E = 0$	-45			V
	BCP52		-60			
	BCP53		-100			
Collector- emitter breakdown voltage	BCP51	$I_C = -10\text{mA}, I_B = 0$	-45			V
	BCP52		-60			
	BCP53		-80			
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100\mu\text{A}, I_C = 0$	-5			
Collector-base cut-off current	BCP51	$V_{CB} = -45\text{V}, I_E = 0$			-0.1	μA
	BCP52	$V_{CB} = -60\text{V}, I_E = 0$				
	BCP53	$V_{CB} = -100\text{V}, I_E = 0$				
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.2	
Base-emitter voltage	V_{BE}	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$			-1	
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			
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -50\text{mA}, f = 100\text{MHz}$	100			MHz

■ Classification of $h_{FE(2)}$

Type	BCP51-10,BCP52-10,BCP53-10	BCP51-16,BCP52-16,BCP53-16
Range	63-160	100-250

■ Electrical Characteristics Ta = 25°C

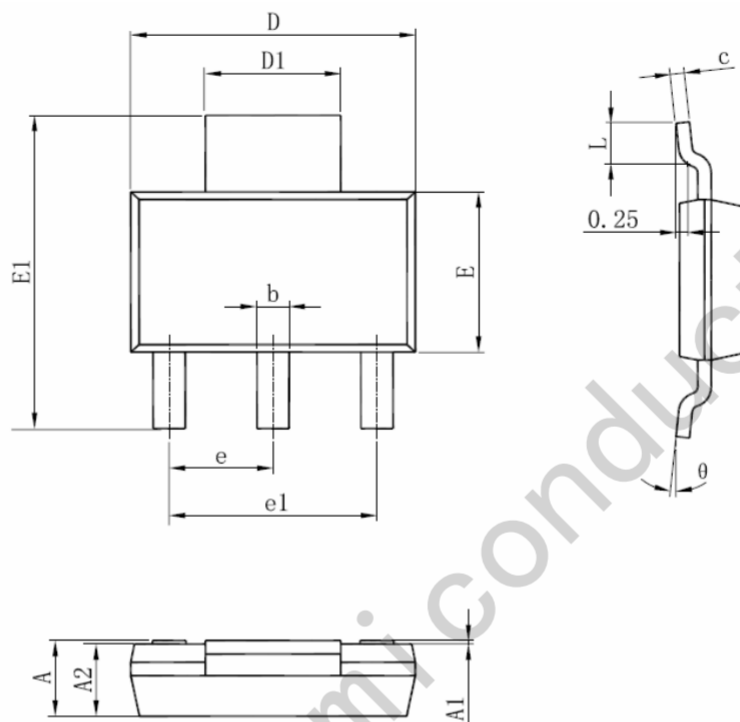
Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BCP51	V _{CB0}	I _C = -100 μA, I _E = 0	-45			V
	BCP52			-60			
	BCP53			-100			
Collector- emitter breakdown voltage	BCP51	V _{CEO}	I _C = -10 mA, I _B = 0	-45			
	BCP52			-60			
	BCP53			-80			
Emitter - base breakdown voltage		V _{EB0}	I _E = -100 μA, I _C = 0	-5			
Collector-base cut-off current	BCP51	I _{CBO}	V _{CB} = -45 V, I _E = 0			-0.1	μA
	BCP52		V _{CB} = -60 V, I _E = 0				
	BCP53		V _{CB} = -100 V, I _E = 0				
Emitter cut-off current		I _{EBO}	V _{EB} = -5V, I _C =0			-0.1	
Collector-emitter saturation voltage		V _{CE(sat)}	I _C =-500 mA, I _B =-50mA			-0.5	V
Base - emitter saturation voltage		V _{BE(sat)}	I _C =-500 mA, I _B =-50mA			-1.2	
Base-emitter voltage		V _{BE}	V _{CE} = -2V, I _C = -500mA			-1	
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			
Transition frequency		f _T	V _{CE} = -10V, I _C = -50mA, f=100MHz	100			MHz

■ Classification of h_{FE(2)}

TypE	BCP51-10,BCP52-10,BCP53-10	BCP51-16,BCP52-16,BCP53-16
Range	63-160	100-250

Package Information

SOT-223



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°