MSKSEMI















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Broduct data sheet

SOT-223



1. BASE

2. COLLECTOR

3. EMITTER

BCP54-MS,55-MS,56-MS TRANSISTOR (NPN)

FEATURES

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCP51 ... BCP53 (PNP)

MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Symbol	Parameter	BCP54-MS	BCP55-MS	BCP56-MS	Unit	
V _{CBO}	Collector-Base Voltage	45	60	100	V	
V _{CEO}	Collector-Emitter Voltage	45	60	80	V	
V _{EBO}	Emitter-Base Voltage	5			V	
Ic	Collector Current -Continuous	1			Α	
Pc	Collector Power Dissipation	1.5		1.5 V		W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	83.3		°C/W		
T _{stg}	Storage Temperature Range	-65~+150		$^{\circ}$		

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter		Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BCP54-MS			45		
	BCP55-MS	$V_{(BR)CBO}$	I _C = 0.1mA,I _E =0	60		V
	BCP56-MS			100		
Collector-emitter breakdown voltage	BCP54-MS			45		
	BCP55-MS	$V_{(BR)CEO}$	I _C = 10mA,I _B =0	60		V
	BCP56-MS			80		
Base-emitter breakdown voltage		$V_{(BR)EBO}$	I _E = 10μΑ,I _C =0	5		V
Collector cut-off current		I _{CBO}	V _{CB} = 30 V, I _E =0		100	nA
		h _{FE(1)}	V _{CE} = 2V, I _C =5mA	25		
DC current gain		h _{FE(2)}	V _{CE} = 2V, I _C =150m A	63	250	
		h _{FE(3)}	V _{CE} = 2V, I _C =500m A	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 =500m A		1	V
Transition frequency		f⊤	V _{CE} =10V,I _C =50mA,f=100MHz	100		MHz

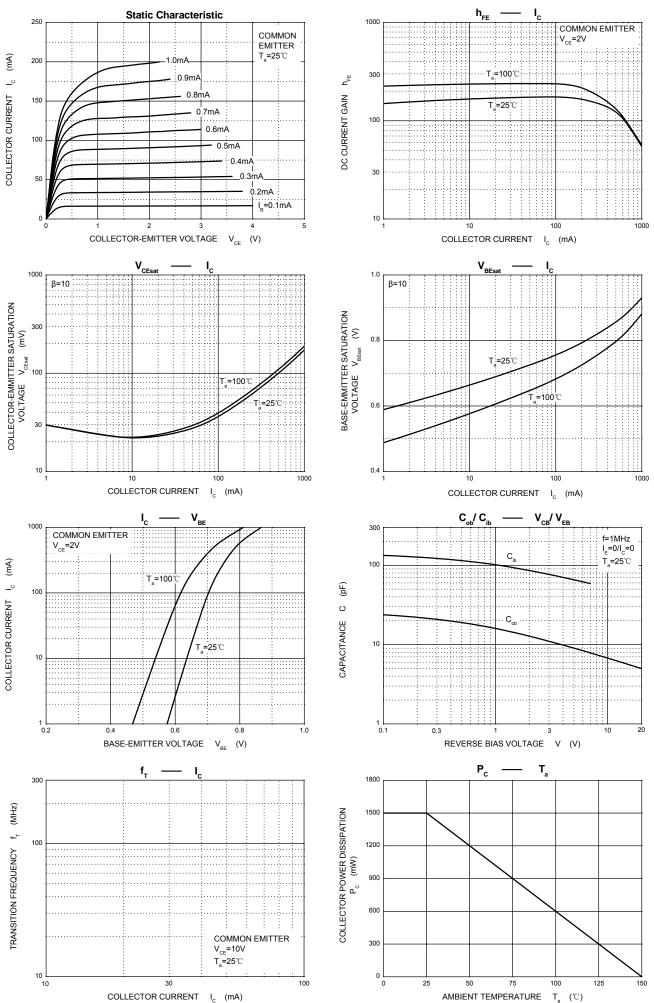
CLASSIFICATION OF h_{FE(2)}

Rank	BCP54-10, BCP55-10, BCP56-10	BCP54-16, BCP55-16, BCP56-16
Range	63-160	100-250

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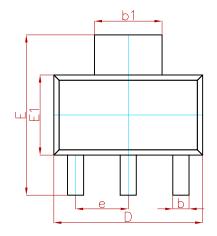
Compiance

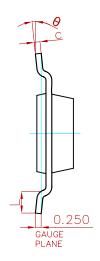
Typical Characteristics

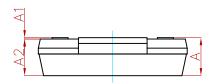




PACKAGE MECHANICAL DATA

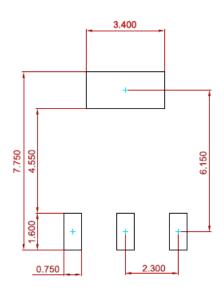






Symbol	Dimensions In	n Millimeters	Dimensions In Inches		
Symbol	Min.	Max.	Min.	Max.	
Α		1.800		0.071	
A1	0.020	0.100	0.001	0.004	
A2	1.500	1.700	0.059	0.067	
b	0.660	0.840	0.026	0.033	
b1	2.900	3.100	0.114	0.122	
С	0.230	0.350	0.009	0.014	
D	6.300	6.700	0.248	0.264	
E	6.700	7.300	0.264	0.287	
E1	3.300	3.700	0.130	0.146	
е	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.

REEL SPECIFICATION

P/N	PKG	QTY
BCP54-MS BCP55-MS BCP56-MS	SOT-223	1000



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