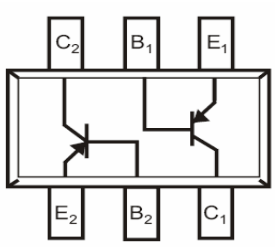
PNP General Purpose Double Transistor BC807DS

FEATURES

- High current(500mA).
- 600mW total power dissipation.
- Replaces two SOT23 packaged transistors. On same PCB area.

Lead-free



SOT-363

APPLICATIONS

- General purpose switching and amplification.
- Puse-pull amplifiers.
- Multi-phase stepper motor drivers.

ORDERING INFORMATION

Type No.	Marking	Package Code
BC807DS	N2	SOT-363

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Unit**
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-500	mA
I_{CM}	Peak Collector Cuurent	-1	A
I_{BM}	Peak Base Current	-200	mA
P_{tot}	Total Power Dissipation	370	mW
T_{amb}	Operating Ambient Temperature	-65 to +150	℃
T_j, T_{stg}	Junction and Storage Temperature	-65 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA I_E=0	-50	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA I_B=0	-45	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA I_C=0	-5	-	-	V
Collector-base cut-off current	I_{CBO}	V_{CB}=-20V I_E=0 V_{CB}=-20V I_E=0 T_j=150℃	-	-	-100 -5	nA μA
Emitter-base cut-off current	I_{EBO}	V_{EB}=-5V I_C=0		-	-100	nA
DC current gain	h_{FE}	V_{CE}=-1V I_C=-100mA V_{CE}=-1V I_C=-500mA	160 40	-	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA I_B=-50mA	-	-	-0.7	V
Base-emitter on voltage	V_{BE}	I_C=-500mA V_{CE}=-1.0V	-	-	-1.2	V
Transition frequency	f_T	V_{CB}=-5.0V,I_C=-10mA,f=100MHz	80	-	-	MHz
Transition capacitance	C_c	V_{CB}=-10V,f=1.0MHz	-	9	-	pF

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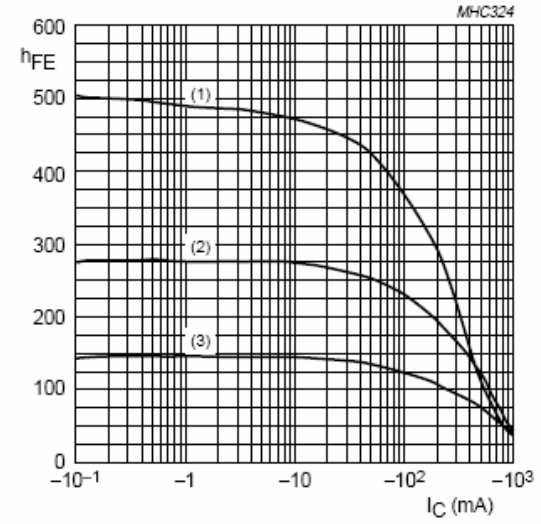
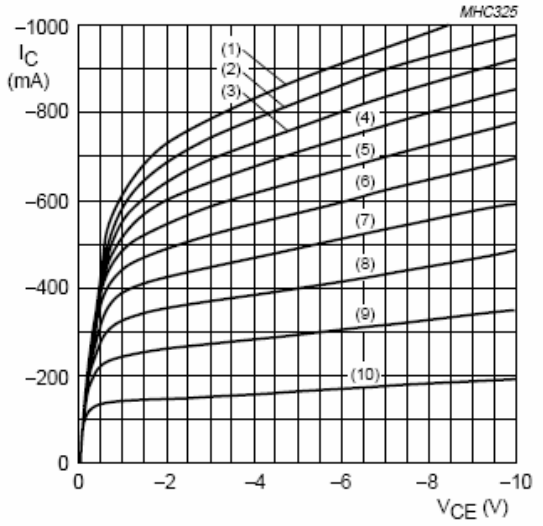
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified



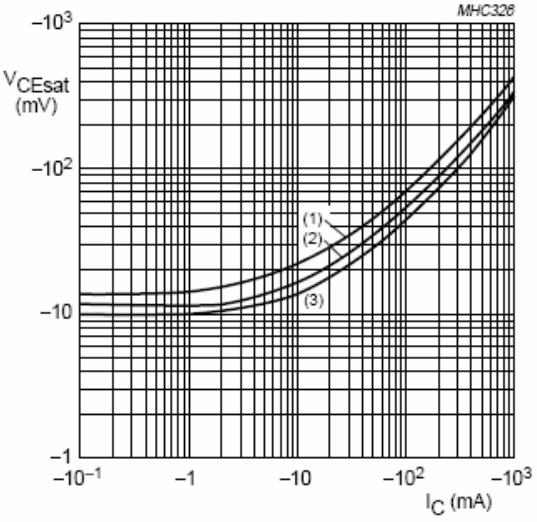
V_{CE} = 1 V.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.1 DC current gain as a function of collector current; typical values.



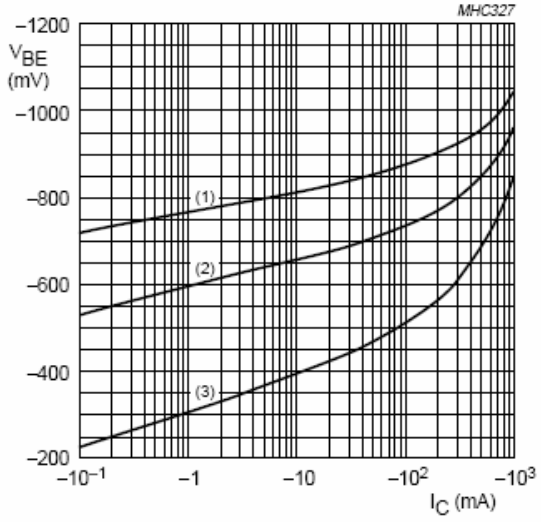
(1) I_B = −7 mA.
(2) I_B = −6.3 mA.
(3) I_B = −5.6 mA.
(4) I_B = −4.9 mA.
(5) I_B = −4.2 mA.
(6) I_B = −3.5 mA.
(7) I_B = −2.8 mA.
(8) I_B = −2.1 mA.
(9) I_B = −1.4 mA.
(10) I_B = −0.7 mA.

Fig.2 Collector current as a function of collector-emitter voltage; typical values.



I_C/I_B = 10.
(1) T_{amb} = 150 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = −55 °C.

Fig.3 Collector-emitter saturation voltage as a function of collector current; typical values.



V_{CE} = 1 V.
(1) T_{amb} = −55 °C.
(2) T_{amb} = 25 °C.
(3) T_{amb} = 150 °C.

Fig.4 Base-emitter voltage as a function of collector current; typical values.

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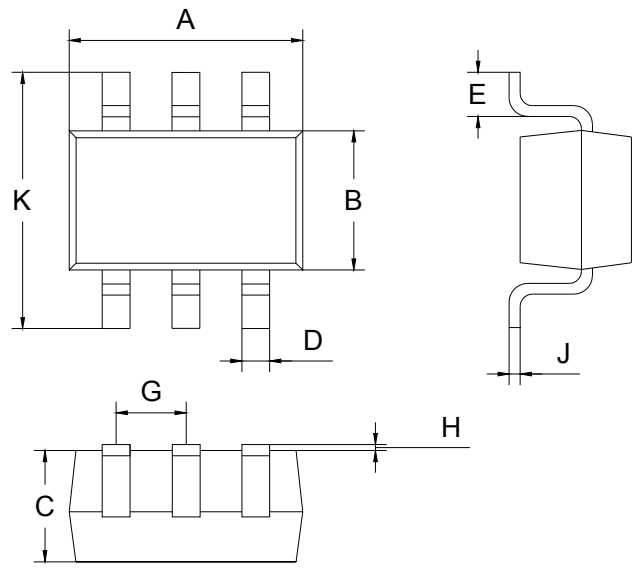
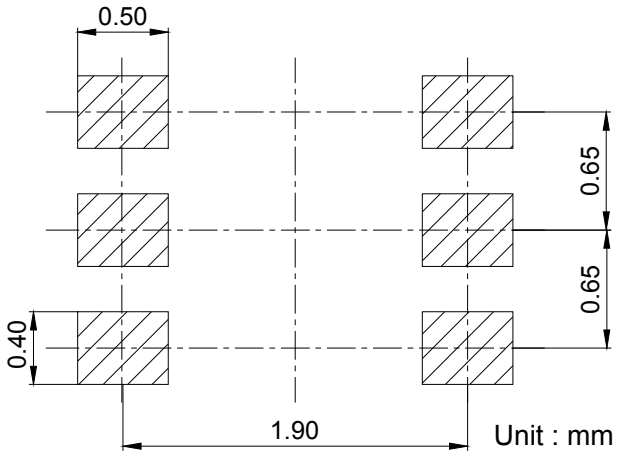
PACKAGE OUTLINE

Plastic surface mounted package SOT-363



SOT-363		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.95 Typical	
D	0.25 Typical	
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.10 Typical	
K	2.2	2.4
All Dimensions in mm		

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BC807DS	SOT-363	3000/Tape&Reel