

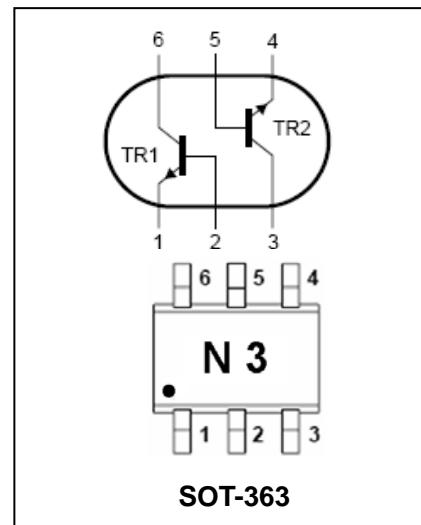
NPN General Purpose Double Transistor

FEATURES

- High current(500mA).
- 200mW total power dissipation.
- Replaces two SOT-363 packaged transistors.
On same PCB area.

APPLICATIONS

- General purpose switching and amplification.
- Pulse-pull amplifiers.
- Multi-phase stepper motor drivers.
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Expsemi electronics



ORDERING INFORMATION

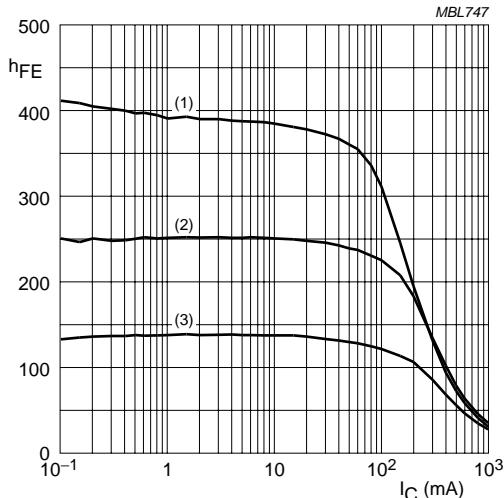
Type No.	Marking	Package Code
BC817DS	N3	SOT-363

MAXIMUM RATING @ Ta=25°C 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 Current	1	A
I _{BM}	Peak Base Current	200	mA
P _{tot}	Total Power Dissipation	200	mW
T _{amb}	Operating Ambient Temperature	-65 to +150	°C
T _{j, T_{stg}}	Junction and Storage Temperature	-65 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A \ I_E=0$	50	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA \ I_B=0$	45	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A \ I_C=0$	5	-	-	V
Collector-base cut-off current	I_{CBO}	$V_{CB}=20V \ I_E=0$ $V_{CB}=20V \ I_E=0 \ T_j=150^\circ C$	-	-	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	$V_{CB}=5.0V, I_C=10mA, f=100MHz$	100	-	-	MHz
Transition capacitance	C_c	$V_{CB}=10V, f=1.0MHz$	-	5	-	pF

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified


$V_{CE} = 1 \text{ V}$.
 (1) $T_{amb} = 150^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = -55^\circ\text{C}$.

Fig.2 DC current gain as a function of collector current; typical values.

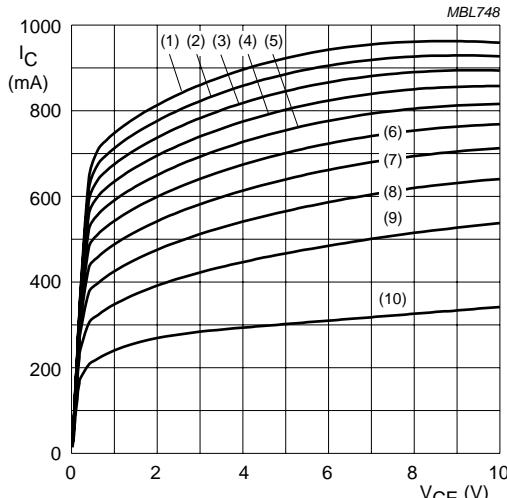
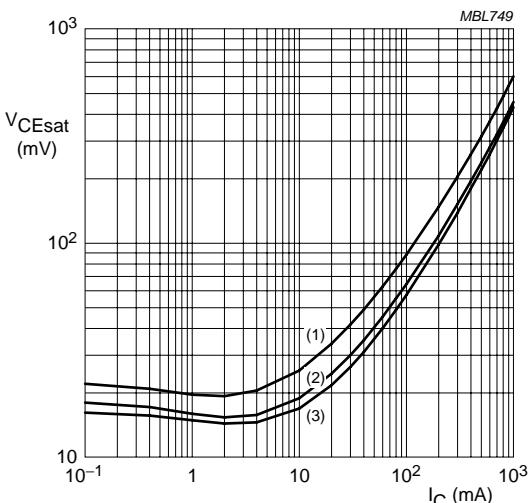
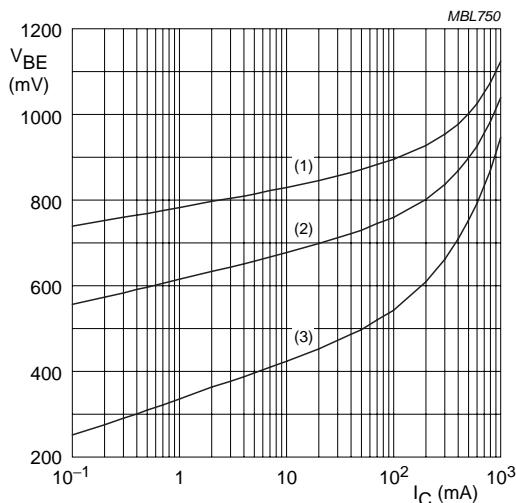


Fig.3 Collector current as a function of collector-emitter voltage; typical values.



$I_C/I_B = 10$.
 (1) $T_{amb} = 150^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = -55^\circ\text{C}$.

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

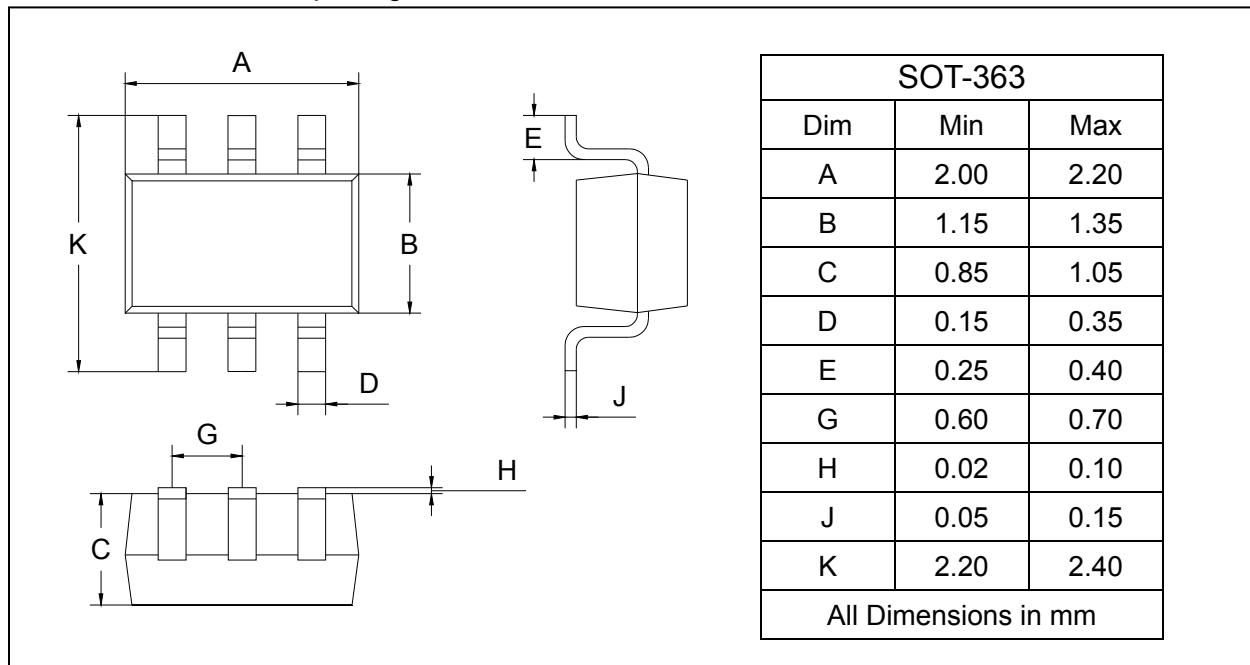


$V_{CE} = 1 \text{ V}$.
 (1) $T_{amb} = -55^\circ\text{C}$.
 (2) $T_{amb} = 25^\circ\text{C}$.
 (3) $T_{amb} = 150^\circ\text{C}$.

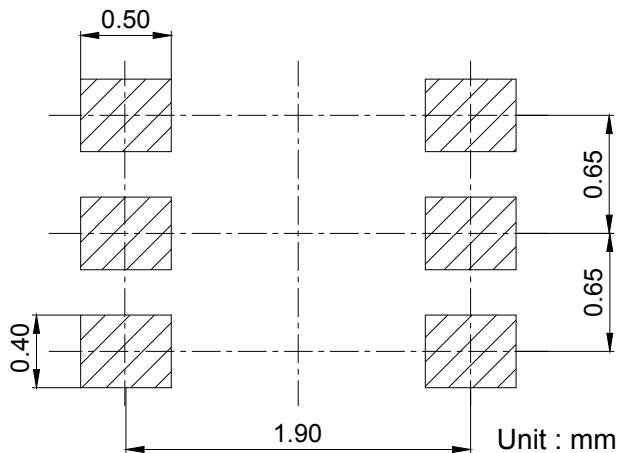
Fig.5 Base-emitter voltage as a function of collector current; typical values.

PACKAGE OUTLINE

Plastic surface mounted package



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BC817DS	SOT-363	3000/Tape&Reel