

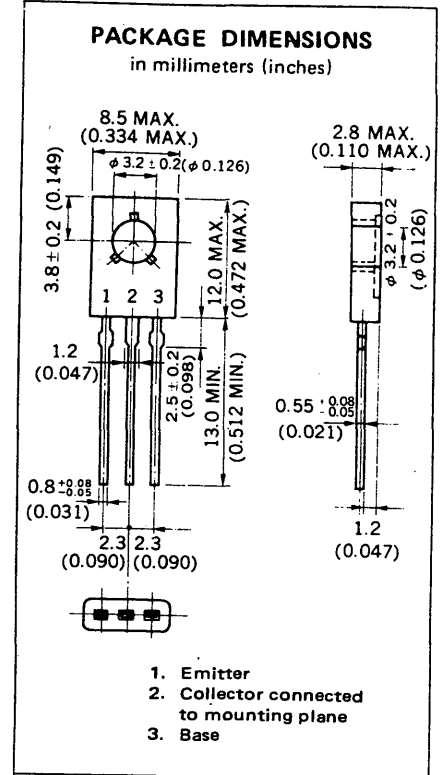
DESCRIPTION The 2SB1217 is a Low $V_{CE(sat)}$ transistor which has a large current capability and wide SOA. It is suitable for DC-DC converter, or driver of solenoid or motor.

- FEATURES**
- Low Collector Saturation Voltage.
 $V_{CE(sat)} = -0.3 \text{ V MAX. (@ } I_C/I_B = -1.5 \text{ A}/-0.15 \text{ A)}$
 - Large Current
 $I_C(DC) = -3.0 \text{ A}$, $I_C(pulse) = -5.0 \text{ A}$
 - High Total Power Dissipation.: $P_T = 1.3 \text{ W}$
 - Complementary to 2SD1818

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	+150 °C Maximum
Maximum Power Dissipations	
Total Power Dissipation ($T_a = 25 \text{ °C}$) . . .	1.3 W
Total Power Dissipation ($T_c = 25 \text{ °C}$) . . .	10 W
Maximum Voltages and Currents ($T_a = 25 \text{ °C}$)	
V_{CBO} Collector to Base Voltage	-60 V
V_{CEO} Collector to Emitter Voltage	-60 V
V_{EBO} Emitter to Base Voltage	-7.0 V
$I_C(DC)$ Collector Current	-3.0 A
$I_C(pulse)$ * Collector Current	-5.0 A
$I_B(DC)$ Base Current	-0.5 A

*PW ≤ 10 μs, Duty Cycle ≤ 50 %



ELECTRICAL CHARACTERISTICS ($T_a = 25 \text{ °C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$V_{CE(sat)}^{**}$	Collector Saturation Voltage		-0.2	-0.3	V	$I_C = -1.5 \text{ A}$, $I_B = -0.15 \text{ A}$
$V_{BE(sat)}^{**}$	Base Saturation Voltage		-0.9	-1.2	V	$I_C = -1.5 \text{ A}$, $I_B = -0.15 \text{ A}$
h_{FE1}^{**}	DC Current Gain	60			-	$V_{CE} = -2.0 \text{ V}$, $I_C = -0.2 \text{ A}$
h_{FE2}^{**}	DC Current Gain	100		400	-	$V_{CE} = -2.0 \text{ V}$, $I_C = -0.6 \text{ A}$
h_{FE3}^{**}	DC Current Gain	50			-	$V_{CE} = -2.0 \text{ V}$, $I_C = -2.0 \text{ A}$
I_{CBO}	Collector Cutoff Current			-10	μA	$V_{CB} = -60 \text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			-10	μA	$V_{EB} = -7.0 \text{ V}$, $I_C = 0$
t_{on}	Turn-On Time		0.15	0.5	μs	$I_C = -1.0 \text{ A}$, $I_{B1} = -I_{B2} = -0.1 \text{ A}$ $R_L = 10 \text{ } \Omega$, $V_{CC} \cong -10 \text{ V}$
t_{stg}	Storage Time		0.5	2.0	μs	
t_f	Fall Time		0.1	0.5	μs	

**PW ≤ 350 μs, Duty Cycle ≤ 2 %

Classification of h_{FE2}

Rank	M	L	K
Range	100 to 200	160 to 320	200 to 400

Test Conditions $V_{CE} = -2.0 \text{ V}$, $I_C = -0.6 \text{ A}$

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

