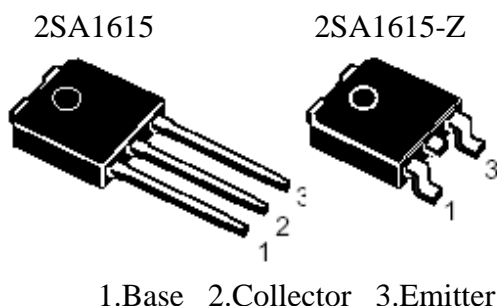


The 2SA1615 and 1615-Z are available for the large current control in small due to the low saturation and are ideal for high-efficiency DC/DC converters due to the fast switching speed.

PIN CONFIGURATION

FEATURE



- Large current capacity:
Ic(DC): -10A, Ic(pulse) : -15A
- High h_{FE} and low collector saturation voltage :
h_{FE} = 200 MIN (@ Vec = -2V, Ic = -0.5A)
V_{CE(sat)} -0.25V (@Ic = -4.0A, IB = -0.05A)

ABSOLUTE MAXIMUM RATINGS (Ta = 25)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector to base voltage	V _{CB0}	-30	V
Collector to emitter voltage	V _{CEO}	-20	V
Emitter to base voltage	V _{EB0}	-10	V
Collector current (DC)	I _c (DC)	-10	A
Collector current (pulse)	I _c (pulse)*	-15	A
Base current (DC)	I _B (DC)	-0.5	A
Total power dissipation	P _T (Ta =25)**	1.0	W
Total power dissipation	P _T (Tc = 25)	15	W
Junction temperature	T _j	150	
Storage temperature	T _{stg}	-55 to +150	

*PW 10ms, duty cycle 50%

**Printing board mounted



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ELECTRICAL CHARACTERISTICS (Ta=25)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Collector cutoff current	ICBO	V _{CB} = -20V, I _E = 0			-1.0	uA
Emitter cutoff current	IEBO	V _{EB} = -8.0, I _c = 0			-1.0	uA
DC current agin	hFE1*	V _{CE} = -2.0V, I _c = -0.5A	200		600	
CC current agin	hFE2*	V _{CE} = -2.0V, I _c = -4.0A	160			
Collector saturation voltage	V _{CE(sat)} *	I _c = -4.0A, I _B = -0.05A		-0.2	-0.25	V
Base saturation voltage	V _{BE(sat)} *	I _c = -4.0A, I _B = -0.05A		-0.9	-1.2	V
Gain bandwidth voltage	ft	V _{CE} = -0.5V, I _E = 1.5A		180		MHz
Output capacity	Cob	V _{CB} = -10V, I _E = 0, f = 1.0MHz		220		pF
Turn-on time	ton	I _c = -5.0A, I _{B1} = -I _{B2} = -0.125A R _L = 2.0ohm, V _{cc} = -10V		80		ns
Storage time	tstg			300		ns
Fall time	tr			60		ns

* Pulse test PW 350uA, duty cycle 2%

hFE CLADDIFICATION

Marking	L	K
hFE2	200 to 400	300 to 600



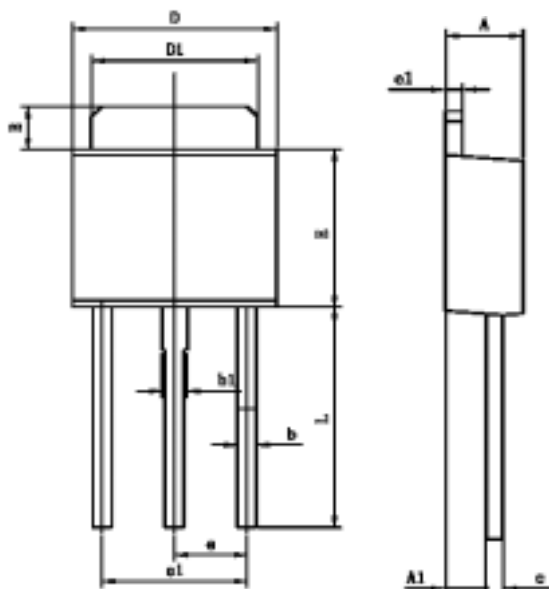
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-10A

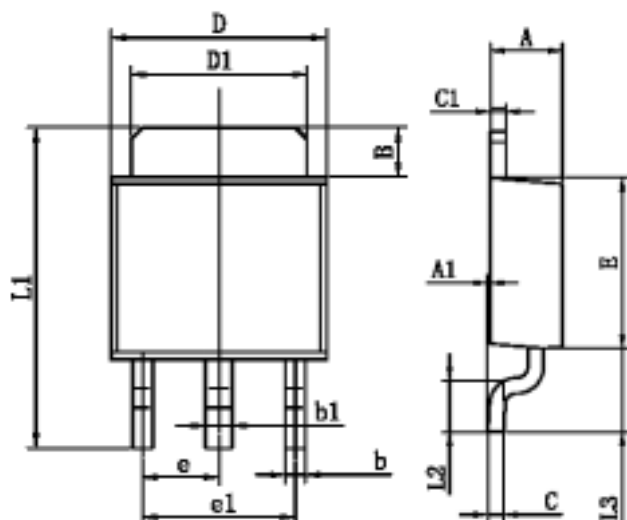
PACKAGE DRAWING (unit: mm)

2SA1615



Symbol	Dimensions In Millimeters	
	Min	Max
A	2.200	2.400
A1	1.020	1.270
B	1.350	1.650
b	0.500	0.700
b1	0.700	0.900
c	0.430	0.580
c1	0.430	0.580
D	6.350	6.650
D1	5.200	5.400
E	5.400	5.700
e	2.300TYP	
e1	4.500	4.700
L	7.500	7.900

2SA1615-Z



Symbol	Dimensions In Millimeters	
	Min	Max
A	2.200	2.400
A1	0.000	0.127
B	1.350	1.650
b	0.500	0.700
b1	0.700	0.900
c	0.430	0.580
c1	0.430	0.580
D	6.350	6.650
D1	5.200	5.400
E	5.400	5.700
e	2.300TYP	
e1	4.500	4.700
L1	9.500	9.900
L2	1.400	1.780
L3	2.550	2.900
V	3.80REF	



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-10A

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

