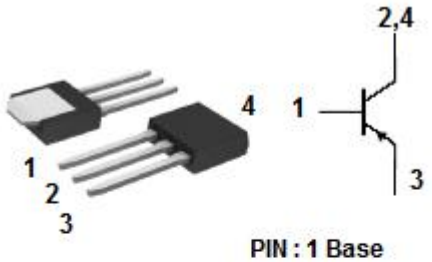
isc Silicon PNP Power Transistor — 2SA1647

DESCRIPTION

- Available for high-current control in small dimension
- Low collector saturation voltage:
  $V_{CE(sat)}$= −0.3V(Max)@ I_C= -3A
- Fast switching speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



PIN : 1 Base
2 Collector
3 Emitter
4 Collector (fin)

IPAK — TO-251 Package

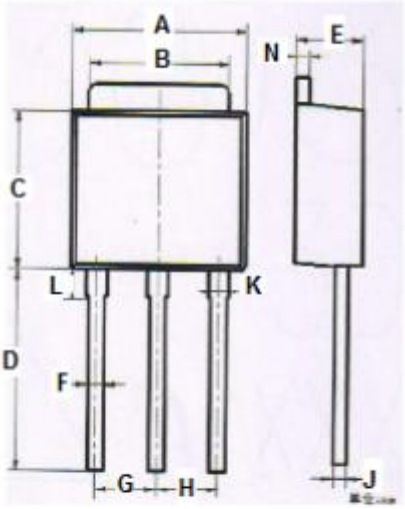
APPLICATIONS

- This transistor is ideal for use in Switching regulators, DC/DC converters,motor drivers,Solenoid drivers and other low-voltage power supply devices,as well as for high-current switching.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-150	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-5	A
I_{CM}	Collector Current-Peak NOTE1	-10	A
P_C	Collector Power Dissipation @ T_C=25℃	18	W
	Collector Power Dissipation @T_a=25℃ NOTE2	1.0	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

NOTE1:PW≤10ms,Duty cycle ≤50%



DIM	mm MIN	MAX
A	6.40	6.48
B	5.10	5.50
C	5.80	6.20
D	9.20	9.60
E	2.20	2.40
F	0.50	0.70
G	2.09	2.49
H	2.09	2.49
J	0.40	0.60
K	0.70	0.90
L	1.60	2.00
N	0.40	0.60

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NOTE2:Printing boarding mounted

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)-1}$NOTE	Collector-Emitter Saturation Voltage	I_C= -3A; I_B= -150mA			-0.3	V
$V_{CE(sat)-2}$NOTE	Collector-Emitter Saturation Voltage	I_C= -4A; I_B= -200mA			-0.5	V
$V_{BE(sat)-1}$NOTE	Base-Emitter Saturation Voltage	I_C= -3A; I_B= -150mA			-1.2	V
$V_{BE(sat)-2}$NOTE	Base-Emitter Saturation Voltage	I_C= -4A; I_B= -200mA			-1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= -100V; I_E= 0			-10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C= 0			-10	μA
h_{FE-1}NOTE	DC Current Gain	I_C= -0.5A; V_{CE}= -2V	100			
h_{FE-2}NOTE	DC Current Gain	I_C= -1A; V_{CE}= -2V	100		400	
h_{FE-3}NOTE	DC Current Gain	I_C= -3A; V_{CE}= -2V	60			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= -10V; f= 1.0MHz		110		pF
f_T	Current-Gain—Bandwidth Product	I_C= -500mA; V_{CE}= -10V		90		MHz

NOTE:Pulse test PW≤350us,duty cycle ≤2%/pulse

◆ **h_{FE-2} Classifications**

M	L	K
100-200	150-300	200-400

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