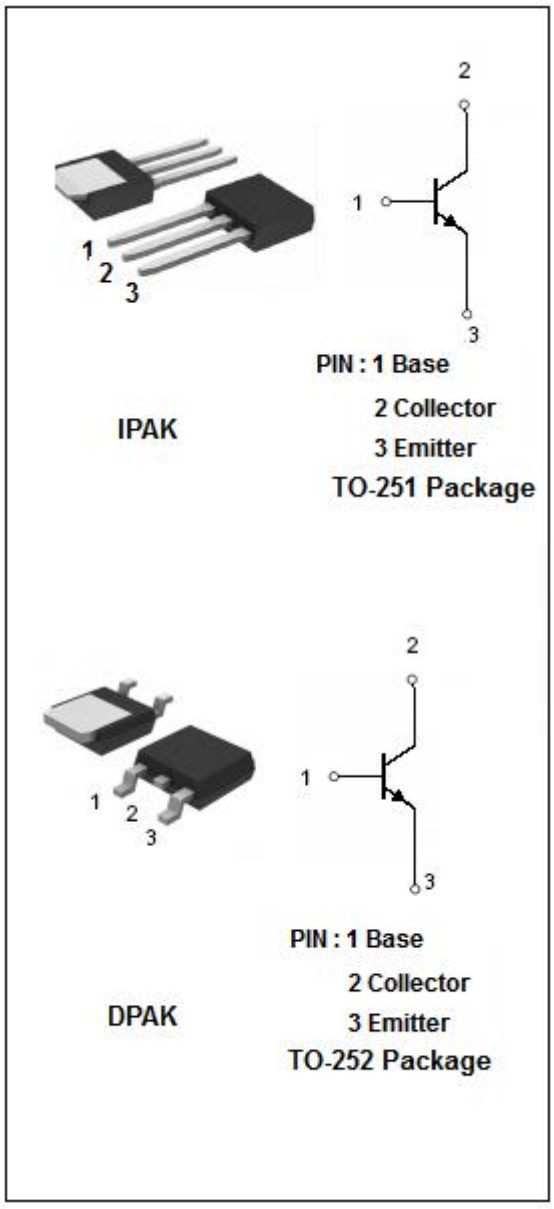
isc Silicon NPN Power Transistor — 2SD1802

DESCRIPTION

- Large current capacitance and wide ASO
- Small and slim package making it easy to make2SD1802/ 2SB1202-used set smaller
- Low collector-to-emitter saturation voltage
- Fast switching speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Voltage regulators,relay drivers,lamp drivers, electrical equipment



ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	3	A
I_{CP}	Collector Current-Pulse	6	A
P_C	Collector Power Dissipation @ T_C=25℃	15	W
	Collector Power Dissipation @ Ta=25℃	1.0	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 100mA			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 100mA			1.2	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 10uA; I_B= 0	60			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA; I_B= 0	50			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 10uA; I_C= 0	6			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V; I_E= 0			1	uA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 4V; I_C= 0			1	uA
h_{FE1}	DC Current Gain	I_C= 0.1A; V_{CE}= 2V	100		560	
h_{FE2}	DC Current Gain	I_C= 3A; V_{CE}= 2V	35			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f= 1.0MHz		25		pF
f_T	Current-Gain—Bandwidth Product	I_C= 50mA; V_{CE}= 10V		150		MHz

◆ **h_{FE1} Classifications**

R	S	T	U
100-200	140-280	200-400	280-560

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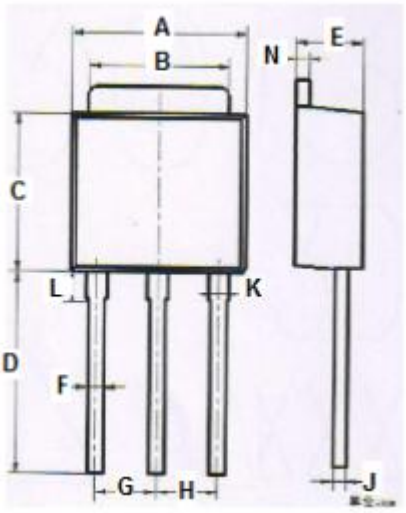
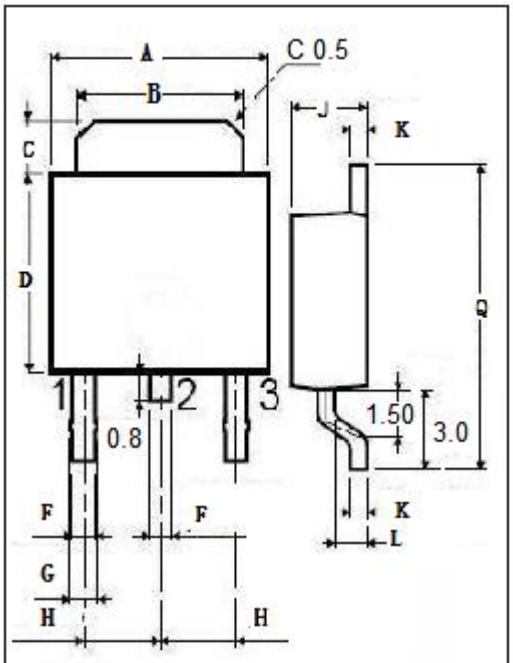
Outline Drawing



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



DIM	mm MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1