

isc Silicon NPN Power Transistor**2SD1805****DESCRIPTION**

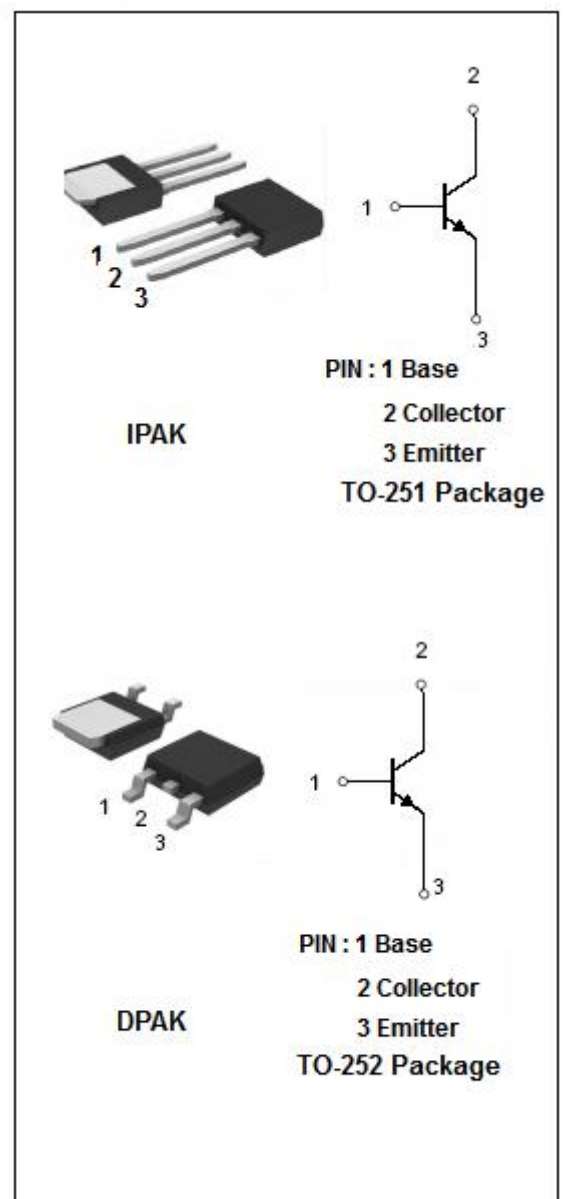
- High current capacity
- Small and slim package making it easy to make 2SD1805-used set smaller
- Low collector-to-emitter saturation voltage
- Fast switching speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Strokes, voltage regulators, relay drivers, lamp drivers

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	5	A
I_{CP}	Collector Current-Pulse	8	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	15	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.0	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SD1805****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 60mA			0.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 60mA			1.5	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	20			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 10uA; I _C = 0	6			V
I _{CBO}	Collector Cutoff Current	V _{CB} = 50V; I _E = 0			0.1	uA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			0.1	uA
h _{FE1}	DC Current Gain	I _C = 0.5A; V _{CE} = 2V	120		560	
h _{FE2}	DC Current Gain	I _C = 3A; V _{CE} = 2V	95			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1.0MHz		45		pF
f _T	Current-Gain—Bandwidth Product	I _C = 50mA; V _{CE} = 10V		120		MHz

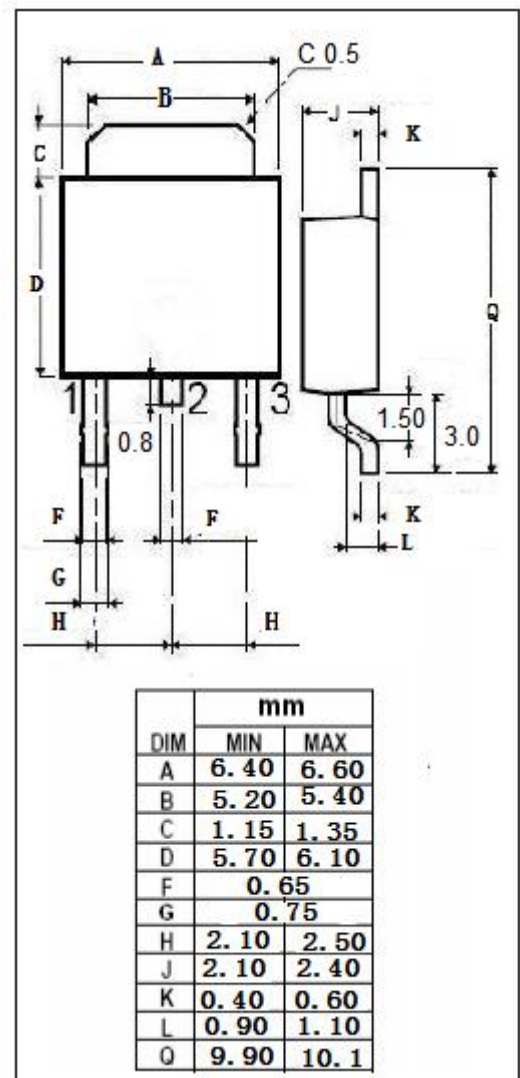
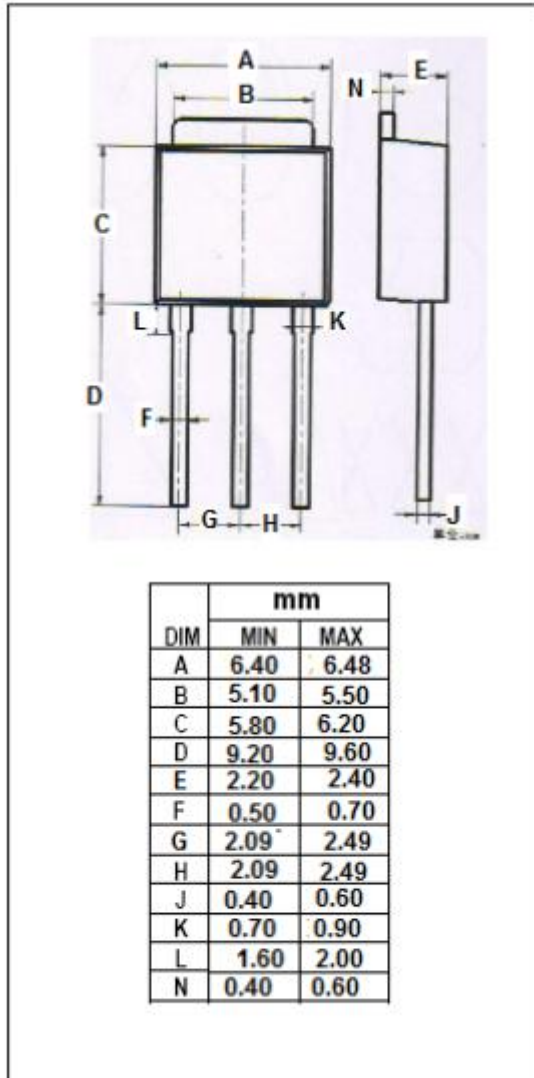
◆ h_{FE1} Classifications

E	F	G
120-200	160-320	280-560

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2SD1805

Outline Drawing



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