

isc Silicon NPN Power Transistor

2SD1412

DESCRIPTION

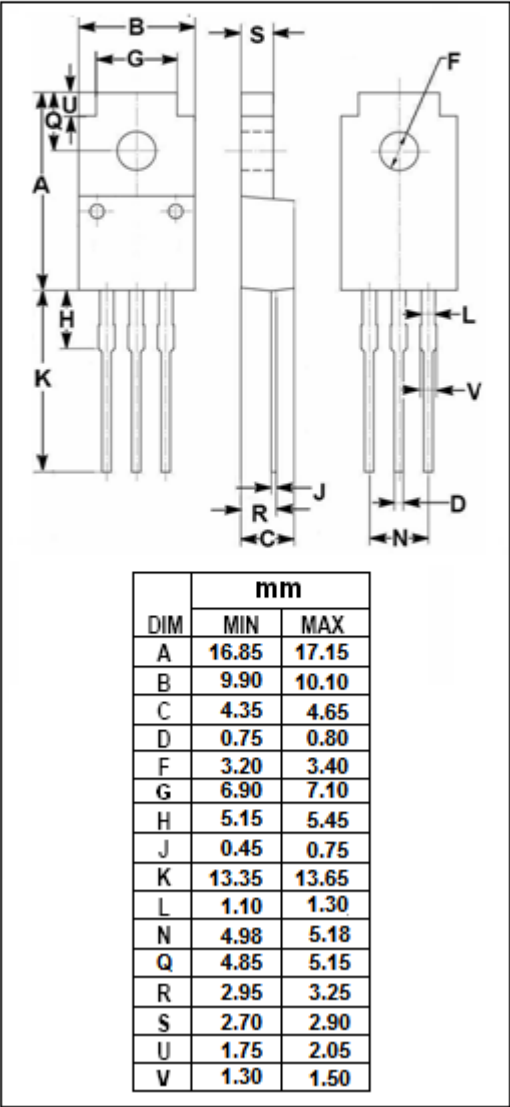
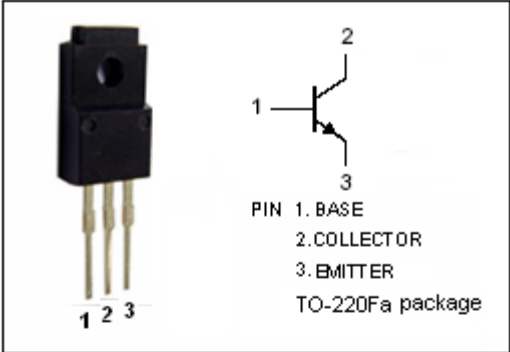
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.4V(Max) @ I_C = 4A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 50V (Min)$
- Complement to Type 2SB1019

APPLICATIONS

- High current switching applications.
- Power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_a=25^{\circ}C$	2	W
	Collector Power Dissipation @ $T_c=25^{\circ}C$	30	
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



isc Silicon NPN Power Transistor**2SD1412****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 50mA ; I _B = 0	50			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			0.4	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 70V; I _E = 0			30	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			50	μ A
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 1V	70		240	
h _{FE-2}	DC Current Gain	I _C = 4A; V _{CE} = 1V	30			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V, f _{test} = 1MHz		250		pF
f _T	Current-Gain—Bandwidth Product	I _C = 1A; V _{CE} = 4V		10		MHz

Switching Times

t _{on}	Turn-on Time	I _{B1} = -I _{B2} = 0.3A; R _L = 10 Ω ; V _{CC} = 30V		0.2		μ s
t _{stg}	Storage Time			2.5		μ s
t _f	Fall Time			0.5		μ s

◆ h_{FE} classifications

O	Y
70-140	120-240