

isc Silicon NPN Power Transistor

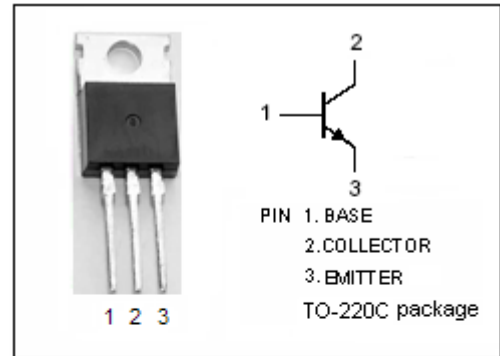
2SD1476

DESCRIPTION

- Low Collector Saturation Voltage
: $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 2A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V (\text{Min})$
- Good Linearity of h_{FE}

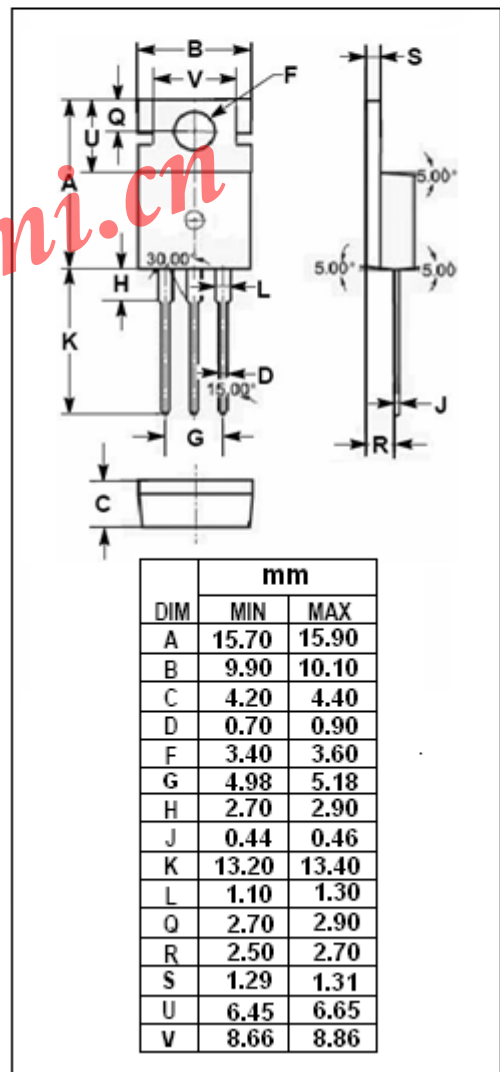
APPLICATIONS

- Designed for power switching applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current-Peak	1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	35	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.4	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=25\text{mA}; I_B=0$	60			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$			1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=1\text{A}; V_{CE}=4\text{V}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=80\text{V}; I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			100	μA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=4\text{V}$	40		320	
h_{FE-2}	DC Current Gain	$I_C=3\text{A}; V_{CE}=4\text{V}$	20			
f_T	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=12\text{V}$		50		MHz

Switching times

t_{on}	Turn-on Time	$I_C=4\text{A}; I_{B1}=-I_{B2}=0.4\text{A}$		0.35		μs
t_{stg}	Storage Time			1.0		μs
t_f	Fall Time			0.3		μs

◆ h_{FE-1} classifications

R	Q	P	O
40-90	70-150	120-250	160-320