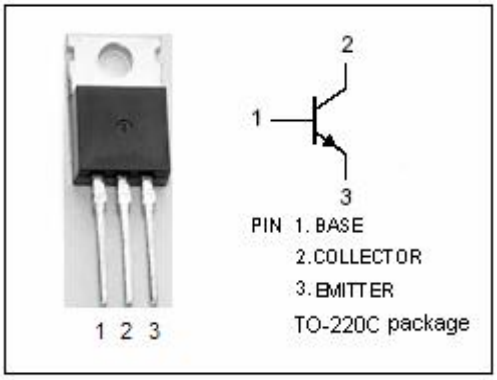
isc Silicon NPN Power Transistor — 2SD1516



DESCRIPTION

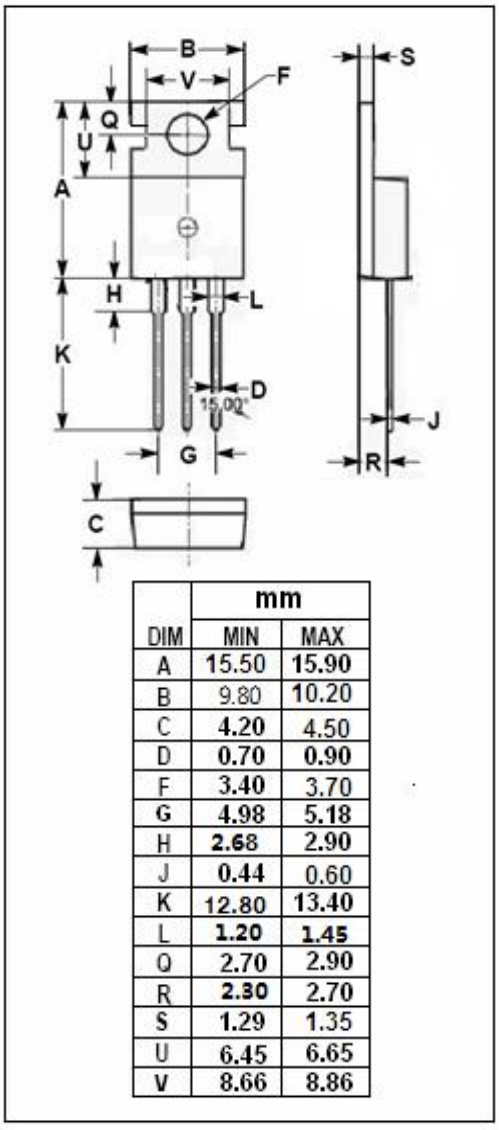
- Low Collector Saturation Voltage
- Good Linearity of h_{FE}
- High Switching Speed
- High I_C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for power amplifier ,power switching applications.

ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	130	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	2	A
I_{CM}	Collector Current-Peak	5	A
P_C	Collector Power Dissipation @T_a=25℃	1.4	W
	Collector Power Dissipation @T_C=25℃	25	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

isc Silicon NPN Power Transistor 2SD1516

ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA ;I_B= 0	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A ;I_B= 0.1A			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2A ;I_B= 0.1A			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			50	μA
h_{FE-1}	DC Current Gain	I_C= 0.1A ; V_{CE}= 2V	45			
h_{FE-2}	DC Current Gain	I_C= 0.5A ; V_{CE}= 2V	60		260	
f_T	Current Gain-Bandwidth Product	I_C= 0.5A; V_{CE}= 10V		2.5		MHz
Switching Times						
t_{on}	Turn-on Time	I_C= 0.5A ,I_{B1}= I_{B2}= 50mA		0.1		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			0.3		μs