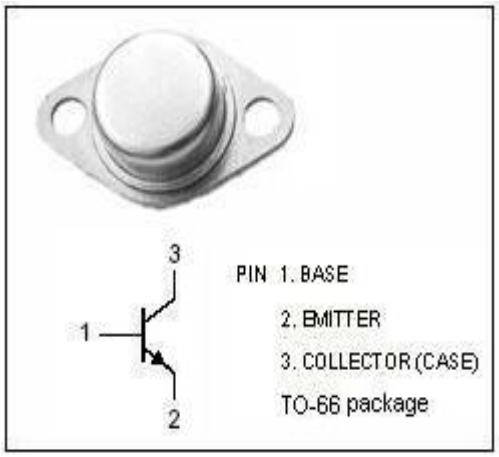
isc Silicon NPN Power Transistors — 2SD103



DESCRIPTION

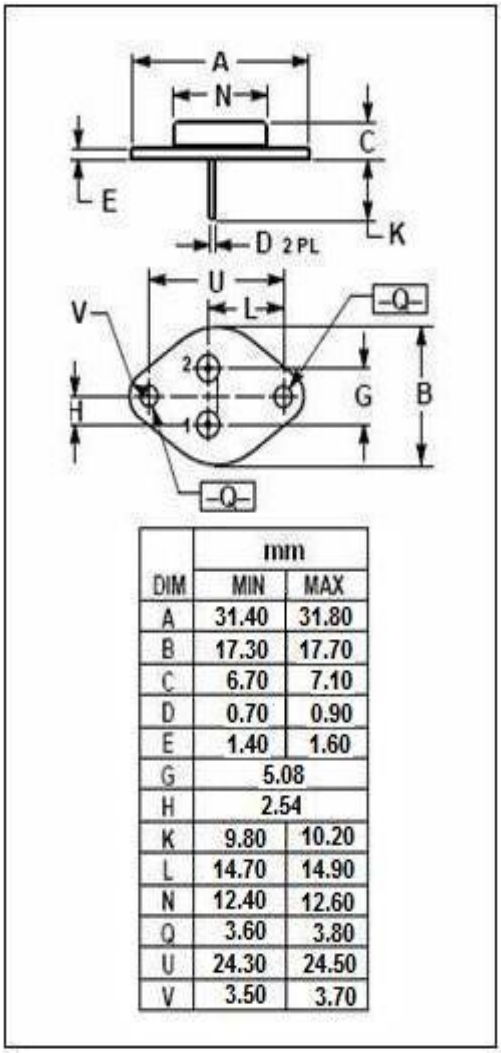
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 50V(Min)
- High Power Dissipation-
  : P_C= 25W(Max)@T_C=25℃
- Complement to Type 2SB503
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for audio power amplifier, power switching, DC-DC converter and regulator applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current-Continuous	3	A
I_E	Emitter Current-Continuous	3	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @T_C=25℃	25	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-65~150	℃



DIM	mm MIN	MAX
A	31.40	31.80
B	17.30	17.70
C	6.70	7.10
D	0.70	0.90
E	1.40	1.60
G	5.08	
H	2.54	
K	9.80	10.20
L	14.70	14.90
N	12.40	12.60
Q	3.60	3.80
U	24.30	24.50
V	3.50	3.70

isc Silicon NPN Power Transistors 2SD103

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	50			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA; I_E= 0	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA; I_C= 0	10			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.3A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 0.3A			1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 0.5A; V_{CE}= 5V			1.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 50V; I_E= 0			20	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 10V; I_C= 0			200	μA
h_{FE-1}	DC Current Gain	I_C= 0.5A; V_{CE}= 5V	30		300	
h_{FE-2}	DC Current Gain	I_C= 2.5A; V_{CE}= 5V	15			
f_T	Current-Gain—Bandwidth Product	I_E= -0.5A; V_{CE}= 10V		1		MHz
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f= 1MHz		200		pF