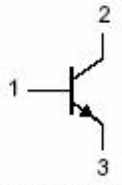
isc Silicon NPN Power Transistor — 2SD553

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 50V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 0.4V(Max) @I_C= 4A
- Complement to Type 2SB553
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

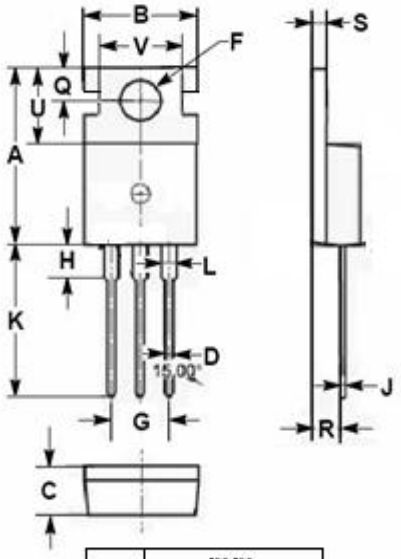
1 2 3



PIN 1. BASE
2.COLLECTOR
3. EMITTER
TO-220C package

APPLICATIONS

- High current switching applications.
- Power amplifier applications.



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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	1.5	W
	Collector Power Dissipation @ T_C=25℃	40	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=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
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.4A		0.2	0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.4A		0.9	1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 70V; I_E= 0			30	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			50	μA
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}= 1.0MHz		250		pF
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 4V		10		MHz
Switching Times						
t_{on}	Turn-On Time	V_{CC}= 30V; R_L= 10Ω; I_{B1}= I_{B2}= 0.3A; Duty Cycle≤1%		0.2		μs
t_s	Storage Time			2.5		μs
t_f	Fall Time			0.5		μs

◆ **h_{FE-1} Classifications**

O	Y
70-140	120-240

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