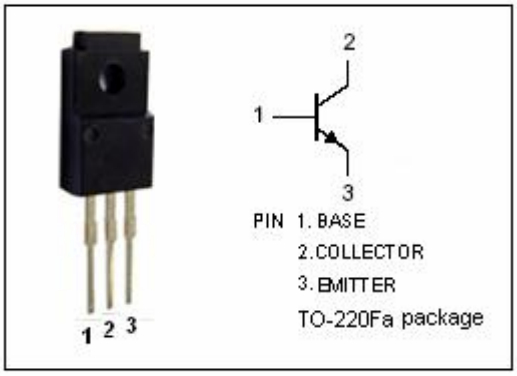
isc Silicon NPN Power Transistor — 2SD1985A



DESCRIPTION

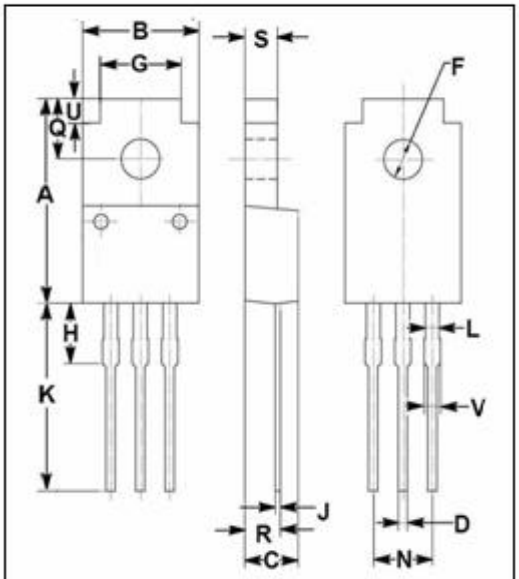
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 80V(Min.)
- Good Linearity of h_{FE}
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 1.2V(Max,)@ I_C= 3A
- Complement to Type 2SB1393A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high power amplifications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	5	A
P_C	Collector Power Dissipation @ T_a=25℃	2	W
	Collector Power Dissipation @ T_C=25℃	25	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

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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= 30mA; I_B= 0	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.375A			1.2	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 3A; V_{CE}= 4V			1.8	V
I_{CES}	Collector Cutoff Current	V_{CE}= 80V; V_{BE}= 0			200	μA
I_{CEO}	Collector Cutoff Current	V_{CE}= 60V; I_B= 0			300	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			1	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 4V	70		250	
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 4V	10			
f_T	Current-Gain—Bandwidth Product	I_C= 0.1A; V_{CE}= 5 V; f= 1MHz		30		MHz
Switching Times						
t_{on}	Turn-on Time	V_{CC}= 50V, I_C= 1A; I_{B1}= I_{B2}= 0.1A,		0.5		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			0.4		μs

◆ h_{FE-1} Classifications

Q	P
70-150	120-250

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