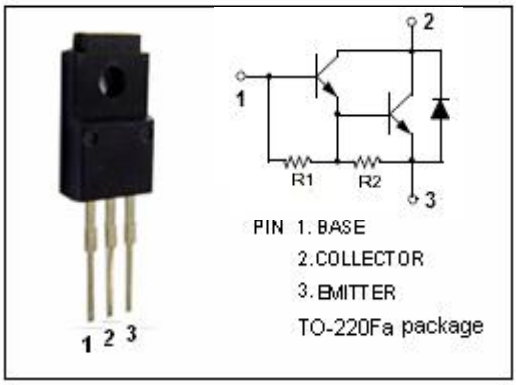
isc Silicon NPN Darlington Power Transistor 2SD1589

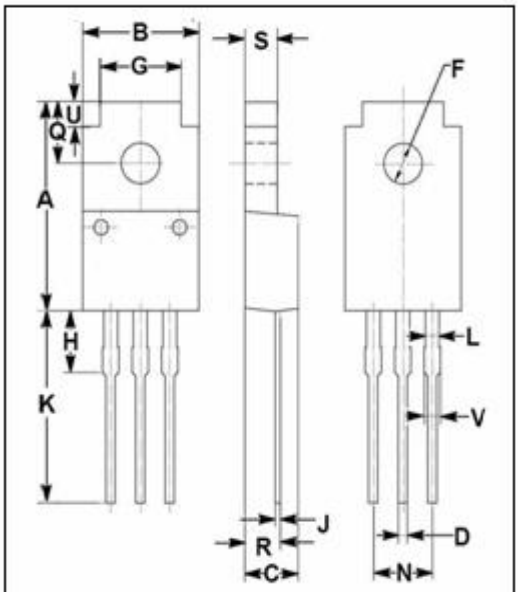
DESCRIPTION

- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 1.5V(Max) @I_C= 2A
- High DC Current Gain
  : h_{FE}= 2000(Min) @ I_C= 2A
- Complement to Type 2SB1098
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for audio frequency power amplifier and low speed switching industrial use.



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	3.80	4.20
J	0.45	0.75
K	13.35	13.80
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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{CP}	Collector Current-Pulse	10	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ T_a=25℃	2	W
	Collector Power Dissipation @ T_C=25℃	20	
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
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 2mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 2mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E= 0			1.0	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			3.0	mA
h_{FE-1}	DC Current Gain	I_C= 2A; V_{CE}= 2V	2000		20000	
h_{FE-2}	DC Current Gain	I_C= 4A; V_{CE}= 2V	500			
Switching times						
t_{on}	Turn-on Time	I_C= 2A, I_{B1}= I_{B2}= 2mA; R_L= 25Ω; V_{CC}≈ 50V		1.0		μs
t_{stg}	Storage Time			3.5		μs
t_f	Fall Time			1.2		μs

◆ **h_{FE-1} Classifications**

M	L	K
2000-5000	4000-10000	8000-20000