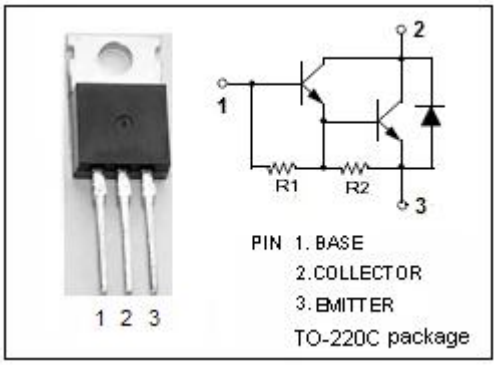
isc Silicon NPN Darlington Power Transistor — 2SD1599

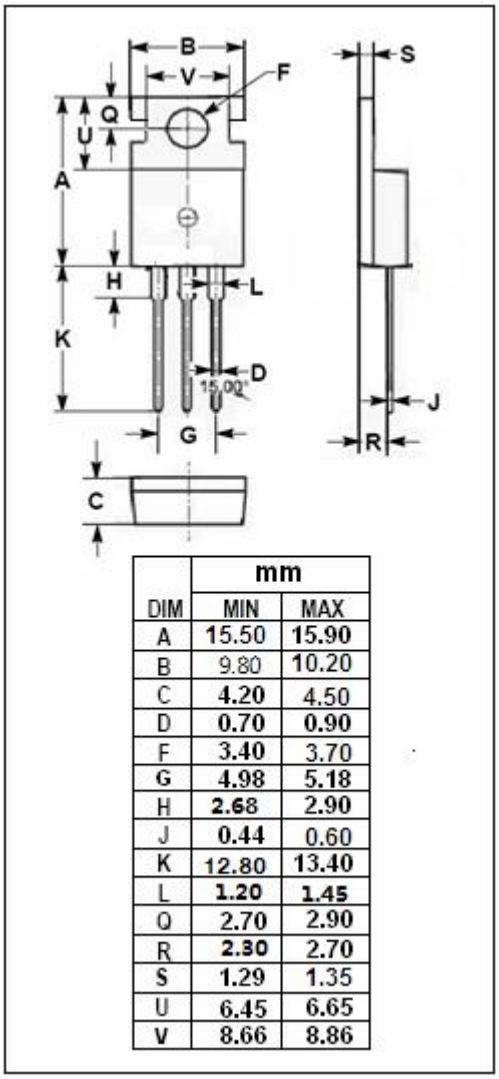
DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 1000(Min)@ I_C= 2A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 80V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = 2.0V(Max)@ I_C= 3A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for general purpose amplifier and low speed switching 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	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_{CM}	Collector Current-Peak	8	A
P_C	Collector Power Dissipation T_C=25℃	40	W
	Collector Power Dissipation T_a=25℃	2	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA, I_B= 0	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A ,I_B= 12mA			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 3.0A ; V_{CE}= 3V			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 80V, I_E= 0			0.1	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 80V, I_B= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			2	mA
h_{FE-1}	DC Current Gain	I_C= 0.5A ; V_{CE}= 3V	1000			
h_{FE-2}	DC Current Gain	I_C= 2A ; V_{CE}= 3V	1000			
Switching times						
t_{on}	Turn-on Time	Ic=3A；I_{B1}= I_{B2}= 12mA		0.5		μs
t_{stg}	Storage Time			6.0		μs
t_f	Fall Time			1.0		μs

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