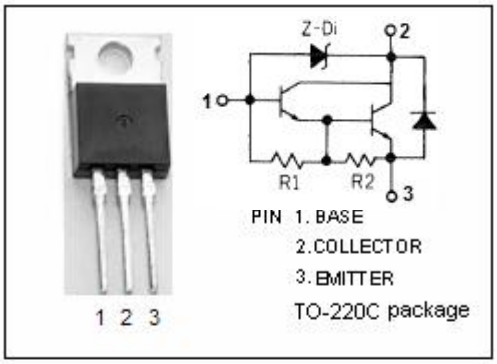
isc Silicon NPN Darlington Power Transistor — 2SD1976



DESCRIPTION

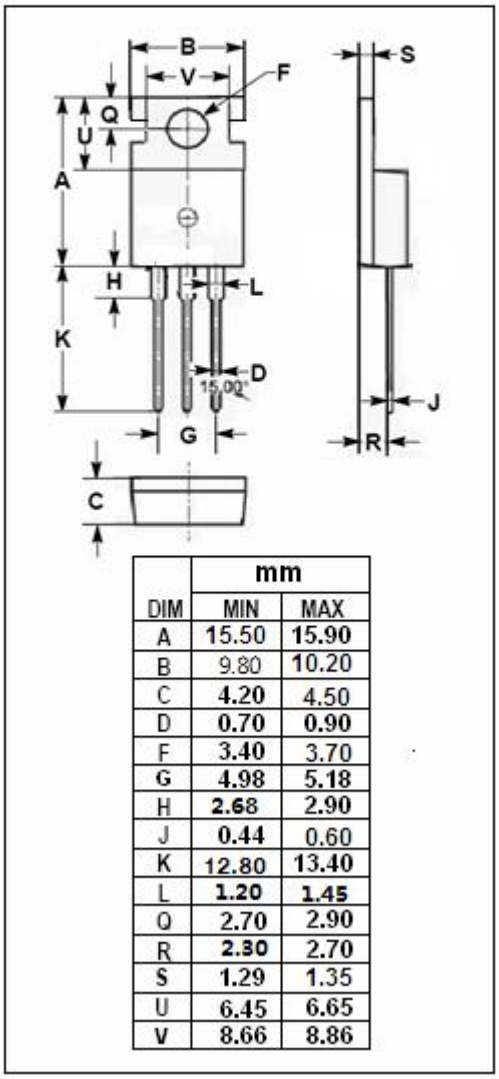
- Fast Switching Speed
- High DC Current Gain
- Built-in high voltage zener diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High voltage switching
- Igniter

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 0.1mA; I_E= 0	300		420	V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 30mA; R_{BE}= ∞	300			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 50mA; I_C= 0	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 40mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 40mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 300V; I_E= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C=0			50	mA
h_{FE}	DC Current Gain	I_C= 4A; V_{CE}= 2V	500			
V_{ECF}	C-E Diode Forward Voltage	I_F= 6A			3.5	V
Switching times						
t_{on}	Turn-on Time	I_C= 4A , I_{B1}= -I_{B2}= 40mA V_{CC}= 20V;		1.2		μs
t_{stg}	Storage Time			8.0		μs
t_f	Fall Time			8.0		μs

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