

isc Silicon NPN Darlington Power Transistor

2SD2163

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 1000(\text{Min}) @ I_C = 10\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 100\text{V}(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

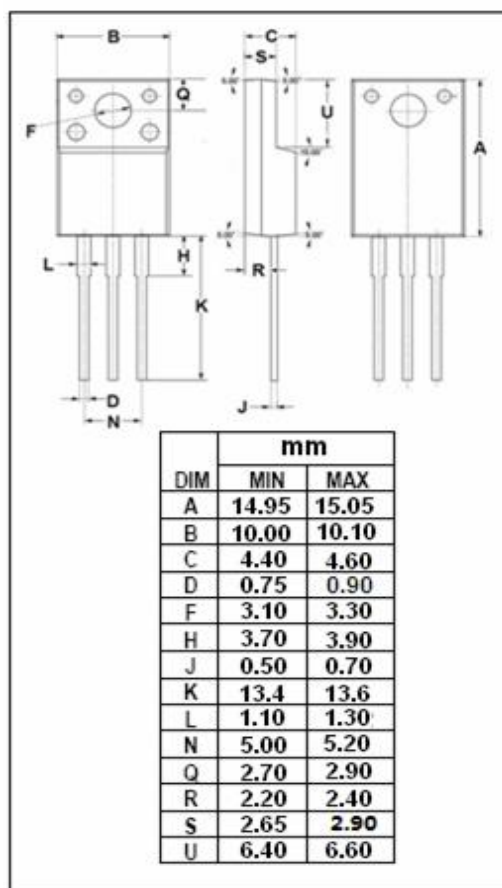
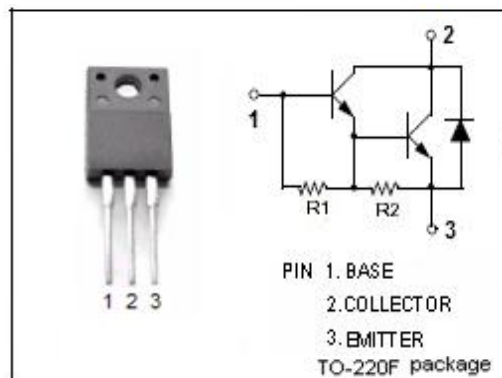
- Be ideal for direct driving from the IC output of devices such as pulse motor drivers and relay drivers of PC terminals.

ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current- Continuous	1	A
P_C	Collector Power Dissipation	30	W
T_j	Max.Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.2	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=10\text{mA}$, $I_B=0$	100		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}$, $I_B=25\text{mA}$		1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}$, $I_B=25\text{mA}$		2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}$, $I_E=0$		10	μA
h_{FE}	DC Current Gain	$I_C=10\text{A}$; $V_{CE}=2\text{V}$	1000	30000	

◆ h_{FE} Classifications

M	L	K	J
1000-3000	2000-5000	4000-10000	8000-30000

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