

isc Silicon NPN Darlington Power Transistor

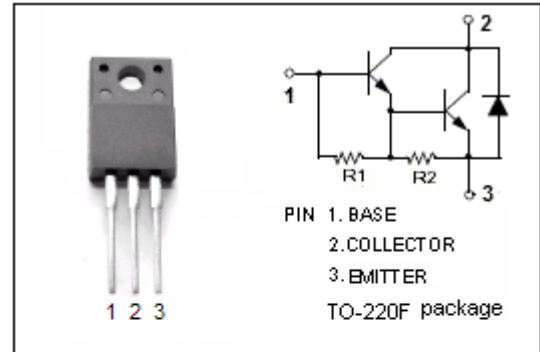
2SD2081

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 2000(\text{Min}) @ (V_{CE} = 4V, I_C = 5A)$
- Large Current Capability
- Complement to Type 2SB1259

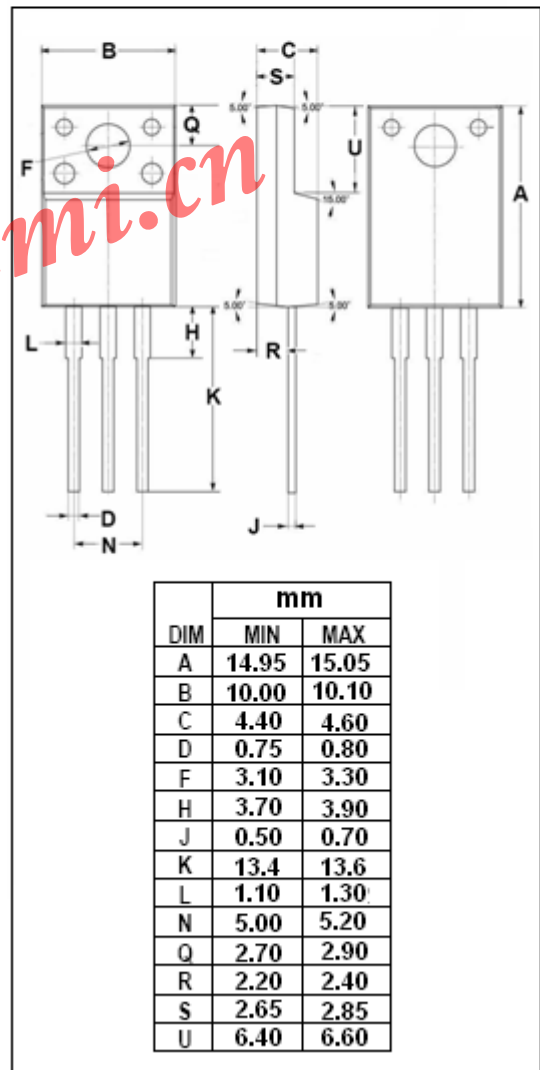
APPLICATIONS

- Driver for solenoid, motor and general purpose applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Pulse	15	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_B=0$	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=5\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=5\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=120\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			10	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}; V_{CE}=4\text{V}$	2000			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{\text{test}}=1.0\text{MHz}$		95		pF
f_T	Current-Gain—Bandwidth Product	$I_E=-0.5\text{A}; V_{CE}=12\text{V}$		60		MHz

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