

isc Silicon NPN Darlington Power Transistor

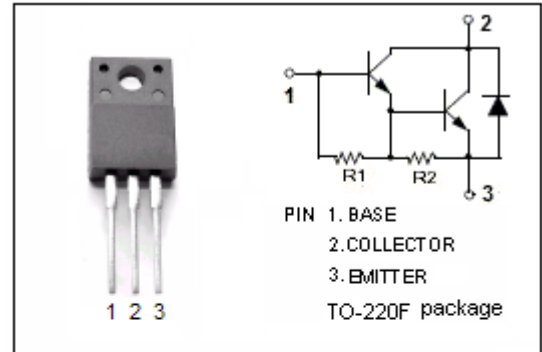
2SD2081

DESCRIPTION

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

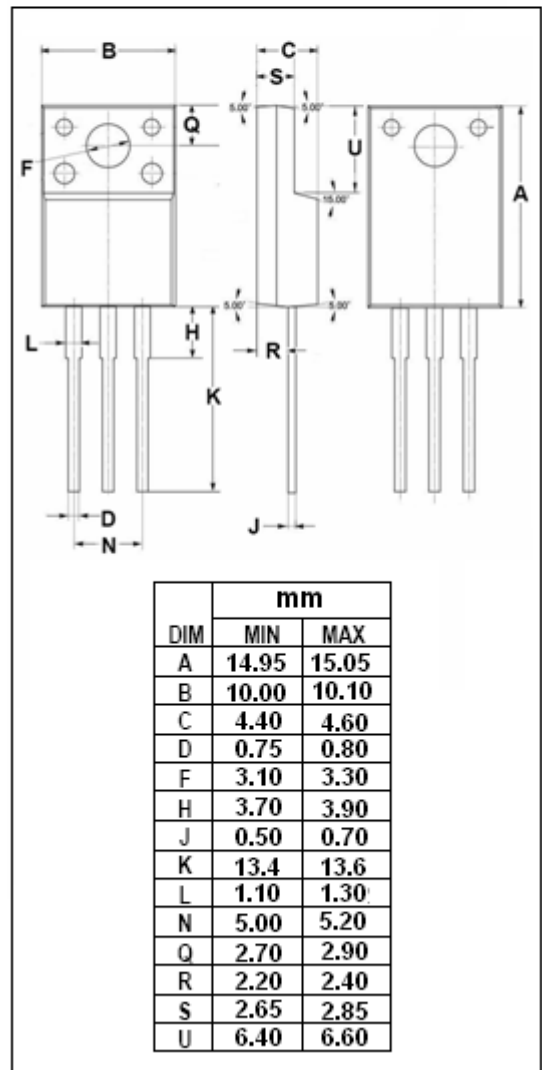
APPLICATIONS

- 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	$^\circ\text{C}$



**isc Silicon NPN Darlington Power Transistor****2SD2081****ELECTRICAL CHARACTERISTICS****T<sub>j</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10mA; I <sub>B</sub> = 0	120			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 5mA			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 5mA			2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 120V; I <sub>E</sub> = 0			10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V; I <sub>C</sub> = 0			10	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 5A; V <sub>CE</sub> = 4V	2000			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1.0MHz		95		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = -0.5A; V <sub>CE</sub> = 12V		60		MHz