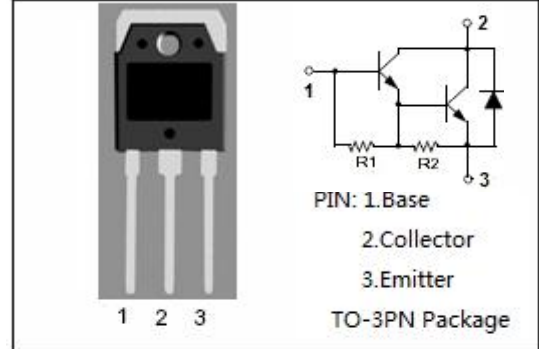


isc Silicon NPN Darlington Power Transistor
2SD2083
DESCRIPTION

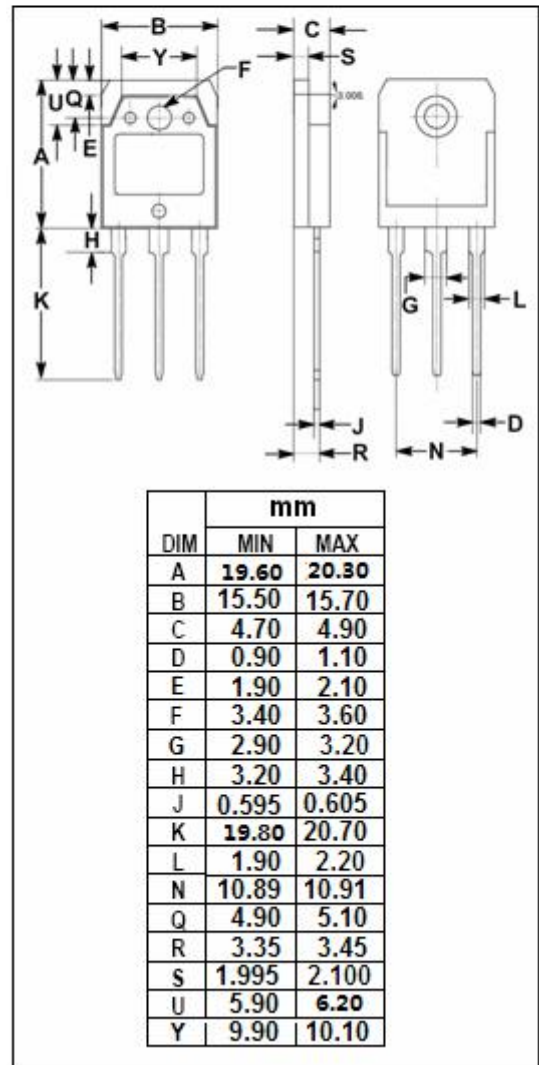
- High DC Current Gain
: $h_{FE} = 2000(\text{Min.}) @ I_C = 12A, V_{CE} = 4V$
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 120V(\text{Min})$
- Complement to Type 2SB1383
- Minimum Lot-to-Lot variations for robust device performance and reliable operation


APPLICATIONS

- Designed for driver of 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	25	A
I_{CM}	Collector Current-Peak	40	A
I_B	Base Current- Continuous	2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	120	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor

2SD2083

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=25\text{mA}, I_B=0$	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=12\text{A}, I_B=24\text{mA}$			1.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=12\text{A}, I_B=24\text{mA}$			2.5	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	$I_C=12\text{A}; V_{CE}=4\text{V}$	2000			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		340		pF
f_T	Current-Gain—Bandwidth Product	$I_E=-1\text{A}; V_{CE}=12\text{V}$		20		MHz

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