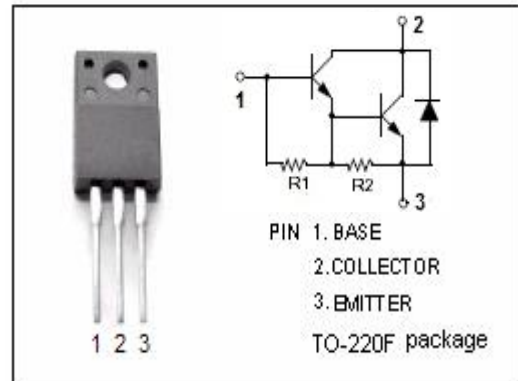


isc Silicon NPN Darlington Power Transistor
2SD1830
DESCRIPTION

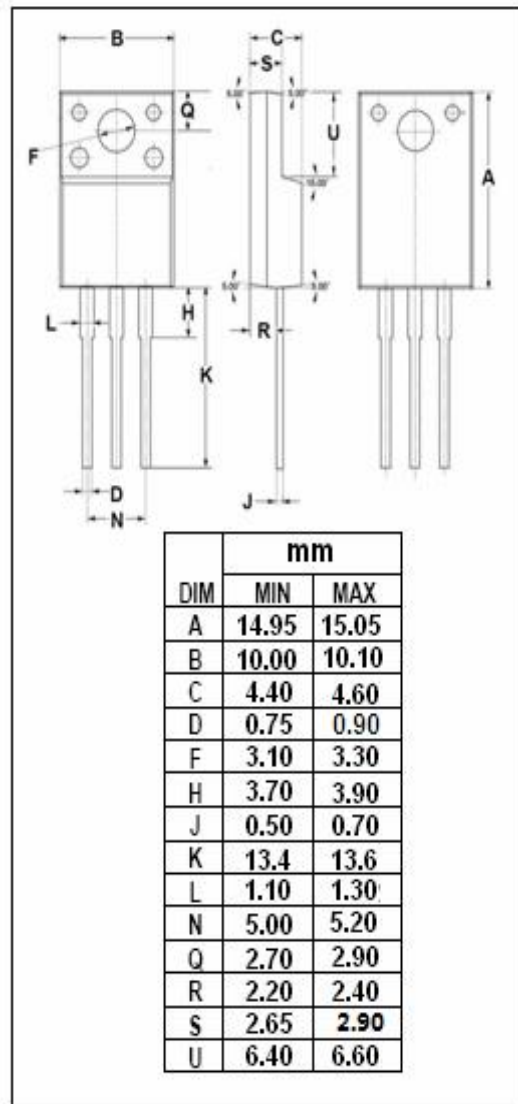
- High DC Current Gain-
: $h_{FE} = 1500(\text{Min})@ (V_{CE} = 3V, I_C = 4A)$
- Large Current Capability and Wide ASO.
- Complement to Type 2SB1228
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in control of motor drivers, printer hammer drivers, relay drivers, and constant-voltage regulators.


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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	110	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	12	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	30	
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°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA; R _{BE} = ∞	100			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 5mA; I _E = 0	110			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 8mA			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 8mA			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			3.0	mA
h _{FE}	DC Current Gain	I _C = 4A; V _{CE} = 3V	1500	4000		
f _T	Current-Gain—Bandwidth Product	I _C = 4A; V _{CE} = 5V		20		MHz

Switching Times

t _{on}	Turn-on Time			0.6		μ s
t _{stg}	Storage Time	I _C = 4A, I _{B1} = -I _{B2} = 8mA, V _{CC} = 50V; R _L = 12.5 Ω		4.8		μ s
t _f	Fall Time			1.6		μ s

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