

isc Silicon PNP Darlington Power Transistor
2SB1283
DESCRIPTION

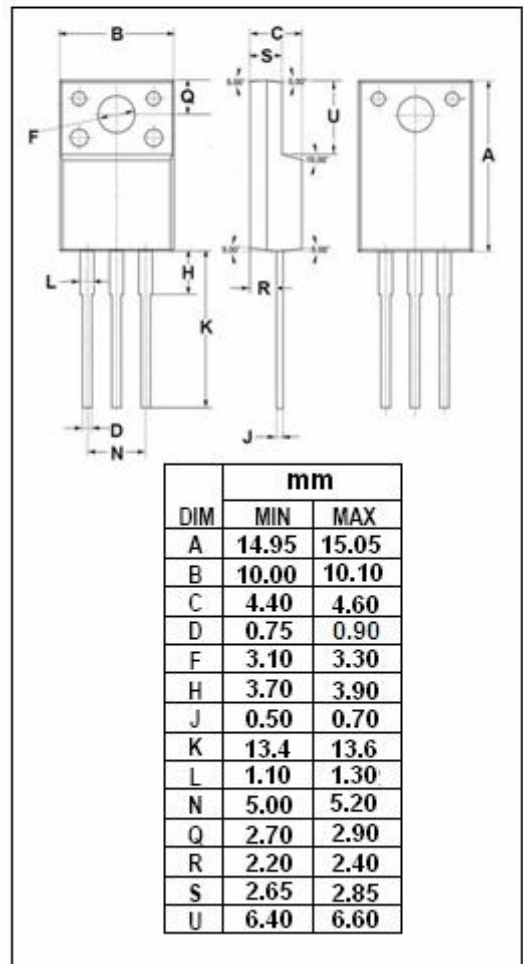
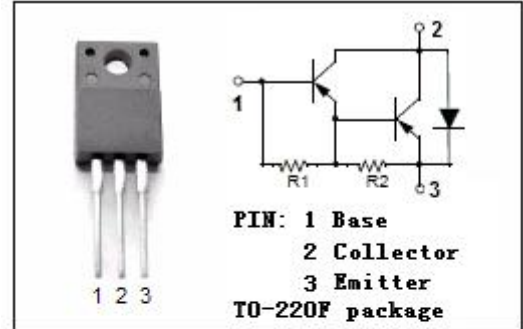
- High DC Current Gain-
: $h_{FE} = 1500(\text{Min.}) @ I_C = -3A$
- Low Collector Saturation Voltage-
: $V_{CE(\text{sat})} = -1.5V(\text{Max}) @ I_C = -3A$
- Good Linearity of h_{FE}
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High power switching applications.
- Hammer drive, pulse motor drive applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-7	A
I_{CM}	Collector Current-Peak	-10	A
I_B	Base Current-Continuous	-0.5	A
I_{BM}	Base Current-peak	-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 Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICST_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = -30mA; I _B = 0	-100			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -3A; I _B = -5mA			-1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -3A; I _B = -5mA			-2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -100V; I _E = 0			-100	μ A
I _{CEO}	Collector Cutoff Current	V _{CE} = -100V; R _{BE} = ∞			-100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = -7V; I _C = 0			-5.0	mA
h _{FE}	DC Current Gain	I _C = -3A; V _{CE} = -3V	1500		15000	
f _T	Current-Gain—Bandwidth Product	I _C = -0.7A; V _{CE} = -10V		20		MHz

Switching Times

t _{on}	Turn-on Time				1.0	μ s
t _{stg}	Storage Time	I _C = -3.0A, I _{B1} = -I _{B2} = -5mA, V _{CC} ≈ -40V; R _L = 10 Ω			4.0	μ s
t _f	Fall Time				2.0	μ s

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