

Silicon PNP Darlington Power Transistor

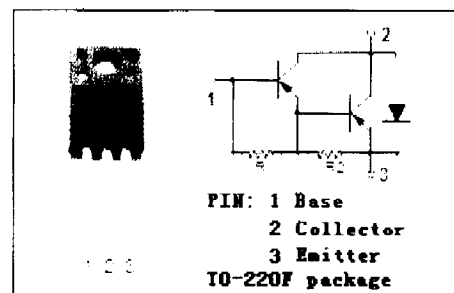
2SB1223

DESCRIPTION

- High DC Current Gain-
 $h_{FE} = 2000(\text{Min}) @ (V_{CE} = -2V, I_C = -2A)$
- Large Current Capability and Wide ASO.
- Complement to Type 2SD1825

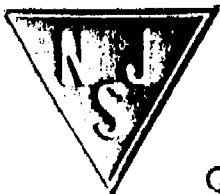
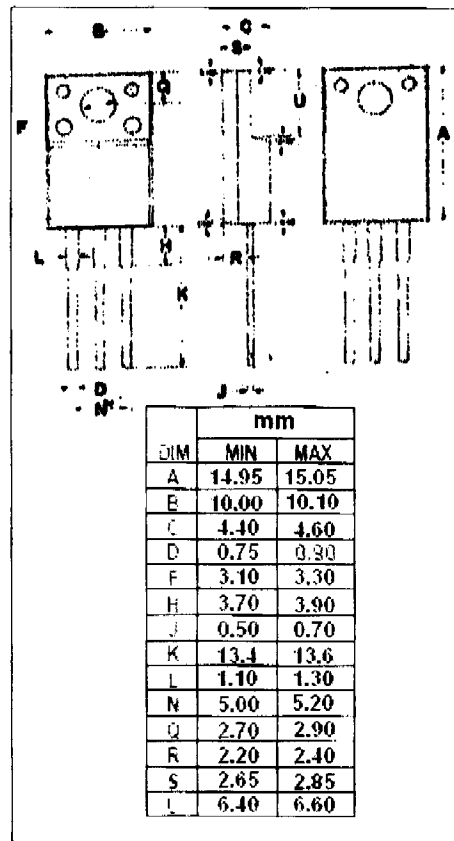
APPLICATIONS

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



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-70	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current-Continuous	-4	A
I_{CM}	Collector Current-Peak	-6	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	20	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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Quality Semi-Conductors

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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEC}	Collector-Emitter Breakdown Voltage	I _C = -50mA; R _{BE} = ∞	-60			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = -5mA; I _E = 0	-70			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -2A; I _B = -4mA			-1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -2A; I _B = -4mA			-2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -40V; 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 = -2A; V _{CE} = -2V	2000			
f _T	Current-Gain—Bandwidth Product	I _C = -2A; V _{CE} = -5V		20		MHz

Switching Times

t _{on}	Turn-on Time	I _C = -2A, I _{B1} = -I _{B2} = -4mA, V _{CC} = -20V; R _L = 10Ω		0.5		μ s
t _{stg}	Storage Time			1.4		μ s
t _f	Fall Time			1.2		μ s