

**isc Silicon PNP Darlingtion Power Transistor**
**2SB1284**
**DESCRIPTION**

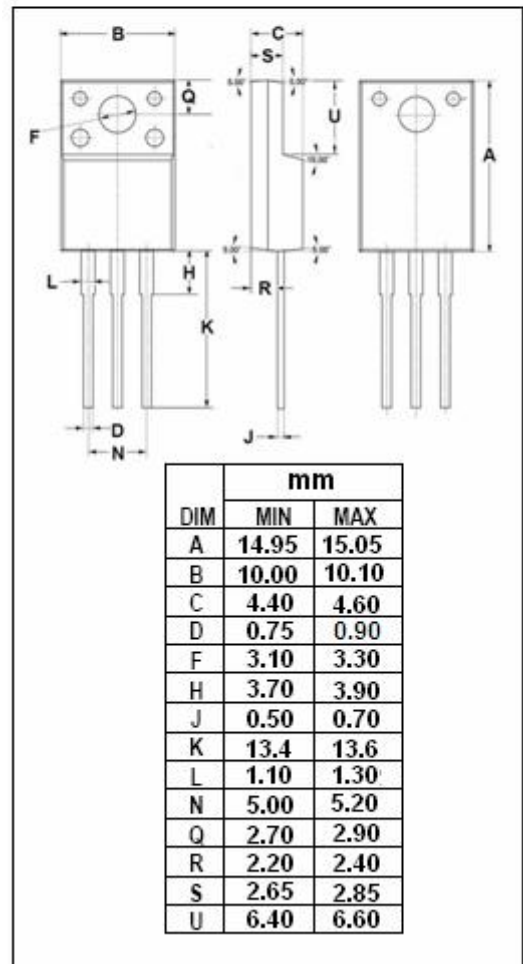
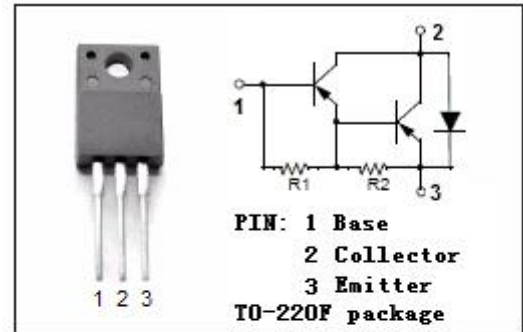
- High DC Current Gain-  
:  $h_{FE} = 1500(\text{Min.}) @ I_C = -5A$
- Low Collector Saturation Voltage-  
:  $V_{CE(\text{sat})} = -1.5V(\text{Max}) @ I_C = -5A$
- Good Linearity of  $h_{FE}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**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	-10	A
$I_{CM}$	Collector Current-Peak	-15	A
$I_B$	Base Current-Continuous	-0.8	A
$I_{BM}$	Base Current-peak	-1.5	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	35	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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**ELECTRICAL CHARACTERISTICS**
**T<sub>c</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> = -30mA; I <sub>B</sub> = 0	-100			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -5A; I <sub>B</sub> = -10mA			-1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -5A; I <sub>B</sub> = -10mA			-2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -100V; I <sub>E</sub> = 0			-100	μ A
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = -100V; R <sub>BE</sub> = ∞			-100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -7V; I <sub>C</sub> = 0			-5.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = -5A; V <sub>CE</sub> = -3V	1500		15000	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -1A; V <sub>CE</sub> = -10V		20		MHz

**Switching Times**

t <sub>on</sub>	Turn-on Time				1.0	μ s
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = -5.0A, I <sub>B1</sub> = -I <sub>B2</sub> = -10mA, V <sub>CC</sub> ≈ -40V; R <sub>L</sub> = 6 Ω			4.0	μ s
t <sub>f</sub>	Fall Time				2.0	μ s

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