

isc Silicon PNP Darlington Power Transistor

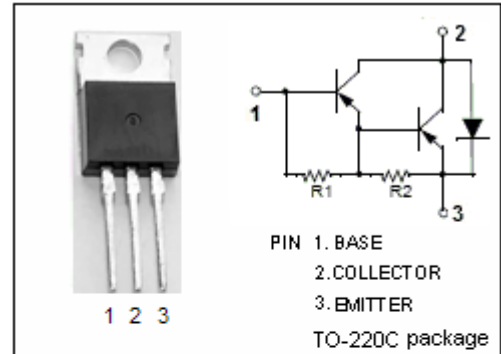
2SB975

DESCRIPTION

- High DC Current Gain-  
:  $h_{FE} = 2000(\text{Min}) @ I_C = -3\text{A}$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = -1.5\text{V}(\text{Max}) @ I_C = -3\text{A}$
- Complement to Type 2SD1309

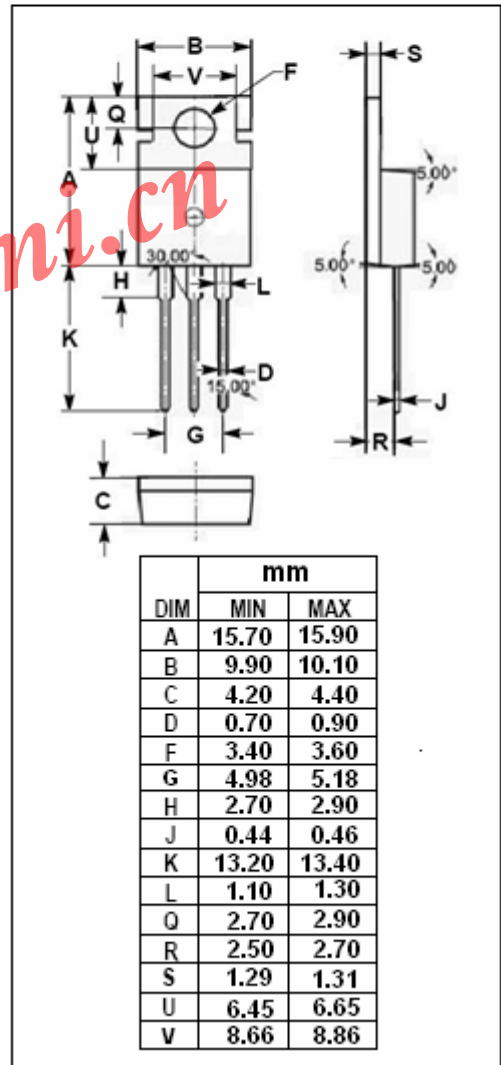
APPLICATIONS

- Designed for audio frequency power amplifier and low-speed switching industrial use.



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-150	V
$V_{CEO}$	Collector-Emitter Voltage	-100	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-8	A
$I_{CM}$	Collector Current-Peak	-12	A
$I_B$	Base Current-DC	-0.8	A
$P_C$	Collector Power Dissipation $T_C=25^\circ\text{C}$	40	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.5	
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature Range	-55~150	°C



## isc Silicon PNP Darlington Power Transistor

2SB975

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -3A, I_B = -3mA$			-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -3A, I_B = -3mA$			-2.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -100V, I_E = 0$			-1.0	$\mu A$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -7V, I_C = 0$			-5	mA
$h_{FE-1}$	DC Current Gain	$I_C = -3A; V_{CE} = -2V$	2000		15000	
$h_{FE-2}$	DC Current Gain	$I_C = -5A; V_{CE} = -2V$	500			

## Switching times

$t_{on}$	Turn-on Time	$R_L = 16.7\ \Omega, V_{CC} \approx -50V$ $I_C = -3A; I_{B1} = -I_{B2} = -3mA$		0.5		$\mu s$
$t_{stg}$	Storage Time			1.0		$\mu s$
$t_f$	Fall Time			1.0		$\mu s$

◆  $h_{FE-1}$  Classifications

M	L	K
2000-5000	3000-7000	5000-15000