

Silicon PNP Darlington Power Transistor

2SB1588

DESCRIPTION

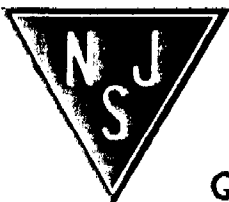
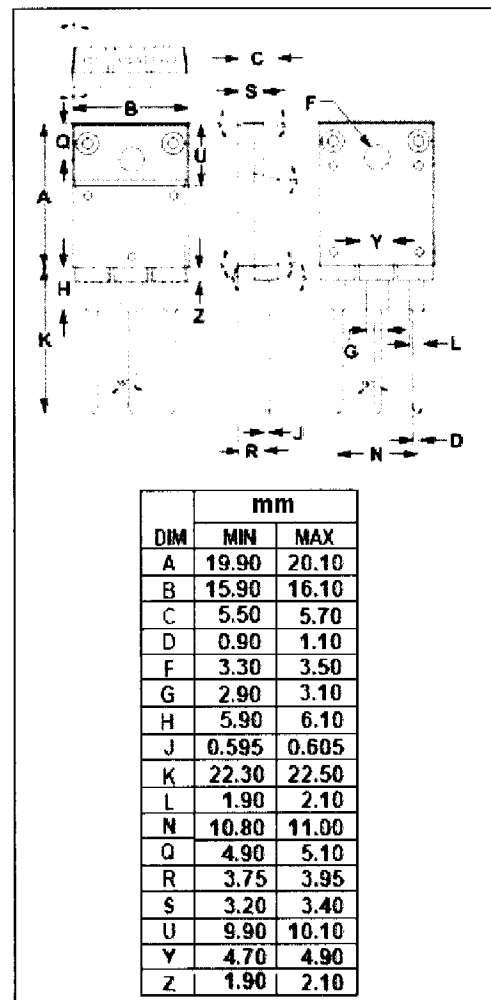
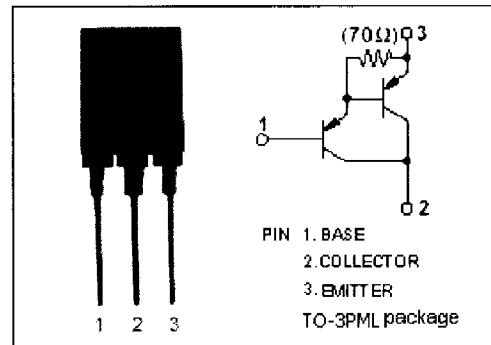
- High DC Current Gain-
 : $h_{FE} = 5000(\text{Min}) @ I_C = -7A$
- Low-Collector Saturation Voltage-
 : $V_{CE(\text{sat})} = -2.5V(\text{Max.}) @ I_C = -7A$
- Complement to Type 2SD2439

APPLICATIONS

- Designed for audio, series regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-160	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-10	A
I_B	Base Current- Continuous	-1	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	80	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

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -30\text{mA}; I_B = 0$	-150			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -7\text{A}; I_B = -7\text{mA}$			-2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -7\text{A}; I_B = -7\text{mA}$			-3.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -160\text{V}; I_E = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-100	μA
h_{FE}	DC Current Gain	$I_C = -7\text{A}; V_{CE} = -4\text{V}$	5000		30000	
C_{OB}	Collector Output Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f = 1\text{MHz}$		230		pF
f_T	Current-Gain—Bandwidth Product	$I_E = 2\text{A}; V_{CE} = -12\text{V}$		50		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -7\text{A}; I_{B1} = -I_{B2} = -7\text{mA}, V_{CC} = -70\text{V}, R_L = 10\Omega$		0.8		μs
t_{stg}	Storage Time			3.0		μs
t_f	Fall Time			1.2		μs

◆ h_{FE} Classifications

O	P	Y
5000-12000	6500-20000	15000-30000