

isc Silicon NPN Darlington Power Transistor

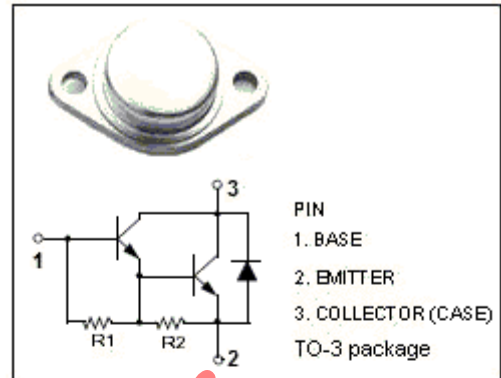
2SD628

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(sus)} = 100V(\text{Min.})$
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min.}) @ I_C = 5A$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 2.0V(\text{Max.}) @ I_C = 5A$
- Complement to Type 2SB638

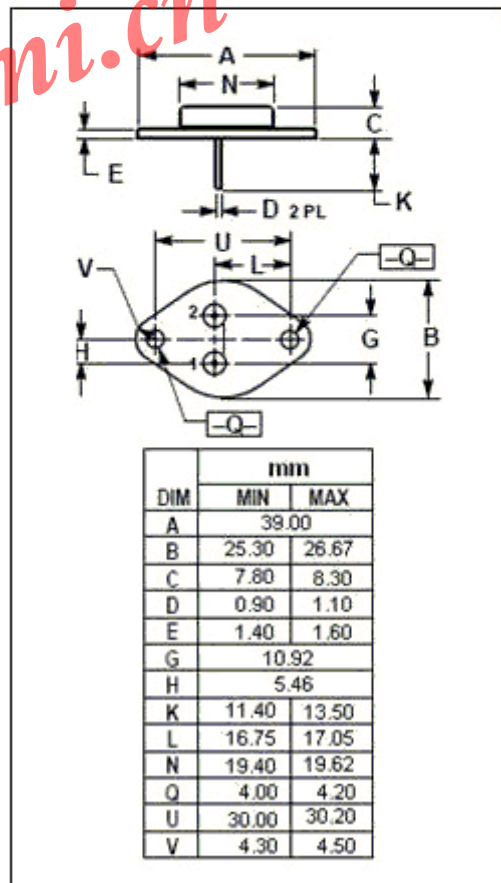
APPLICATIONS

- Designed for low frequency power amplifier and high current switching 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	2	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	-65~+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
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=200\text{mA}; R_{BE}=\infty$	100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=10\text{mA}$			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=100\text{mA}$			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=10\text{mA}$			2.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=100\text{mA}$			3.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			0.1	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=80\text{V}; R_{BE}=\infty$			1.0	μA
h_{FE}	DC Current Gain	$I_C=5\text{A}, V_{CE}=3\text{V}$	1000		20000	

Switching Times

t_{on}	Turn-on Time	$I_C=5\text{A}, I_{B1}=-I_{B2}=10\text{mA}$		2		μs
t_{off}	Fall Time			8		μs