

isc Silicon NPN Darlington Power Transistor

2SD1640

DESCRIPTION

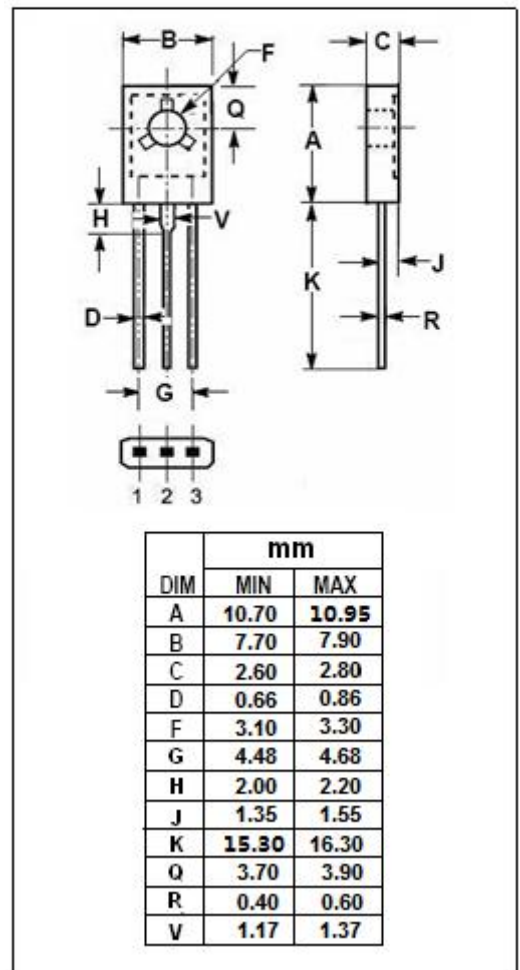
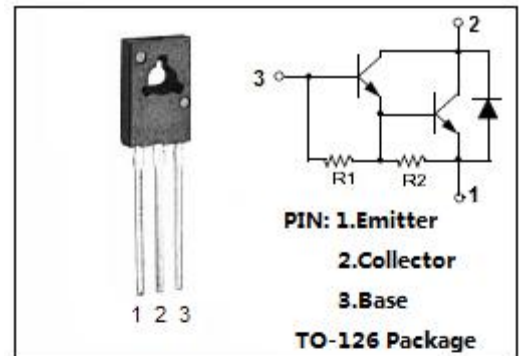
- High DC Current Gain-
: $h_{FE} = 4000(\text{Min}) @ I_C = 1\text{A}$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 100\text{V}(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = 1.5\text{V}(\text{Max}) @ I_C = 1\text{A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low -frequency output amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	2	A
I_{CM}	Collector Current-Peak	3	A
P_C	Collector Power Dissipation $T_C = 25^\circ\text{C}$	15	W
	Collector Power Dissipation $T_a = 25^\circ\text{C}$	1.2	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD1640****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	$I_C=5\text{mA}$, $I_B=0$	100			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}$, $I_E=0$	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}$, $I_B=1\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}$, $I_B=1\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=120\text{V}$, $I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			3	mA
h_{FE}	DC Current Gain	$I_C=1\text{A}$; $V_{CE}=10\text{V}$	4000		40000	
f_T	Current Gain-Bandwidth Product	$I_C=50\text{mA}$; $V_{CE}=10\text{V}$		150		MHz

◆ h_{FE} Classifications

Q	R	S
4000-10000	8000-20000	16000-40000

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