

isc Silicon NPN Darlington Power Transistor
2SD1481
DESCRIPTION

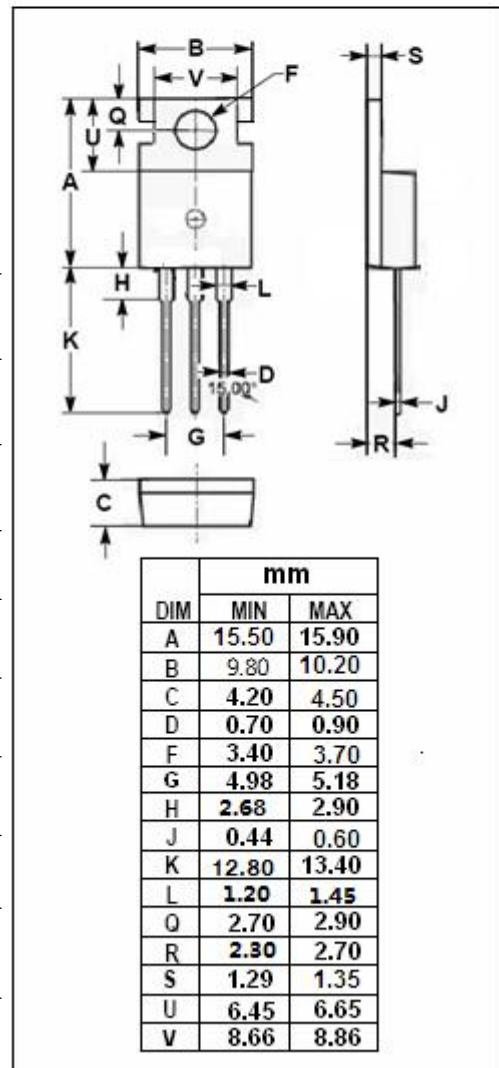
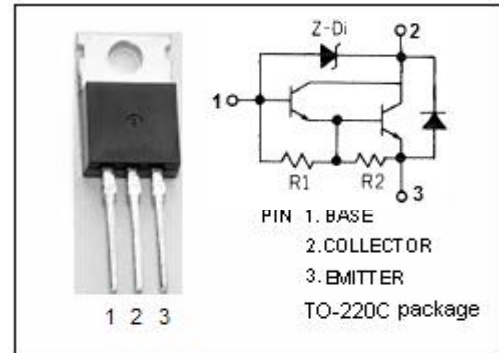
- On-chip C-to-B Zener diode for surge voltage absorption
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max}) @ I_C = 1A$
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = 1A$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low-frequency amplifiers and low speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50-70	V
V_{CEO}	Collector-Emitter Voltage	50-70	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	2	A
I_{CP}	Collector Current-Peak	4	A
I_B	Base Current-Continuous	0.2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	15	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD1481****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	$I_C=1\text{A}, I_B=1\text{mA}$			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	$V_{CB}=40\text{V}, I_E=0$			1	μA
h_{FE-1}^*	DC Current Gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	2000		20000	
h_{FE-2}^*	DC Current Gain	$I_C=3\text{A}; V_{CE}=2\text{V}$	500			

*:Pulse test $PW \leq 350\mu\text{s}$, duty cycle $\leq 2\%$ **Switching Times**

t_{on}	Turn-on Time	$I_C=1\text{A}; I_{B1}=I_{B2}=1\text{mA}$		0.5		μs
t_s	Storage Time			2.0		μs
t_f	Fall Time			1.0		μs

 h_{FE-1} Classifications

M	L	K
2000-5000	4000-10000	8000-20000

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