

isc Silicon NPN Darlington Power Transistor

2SD459

DESCRIPTION

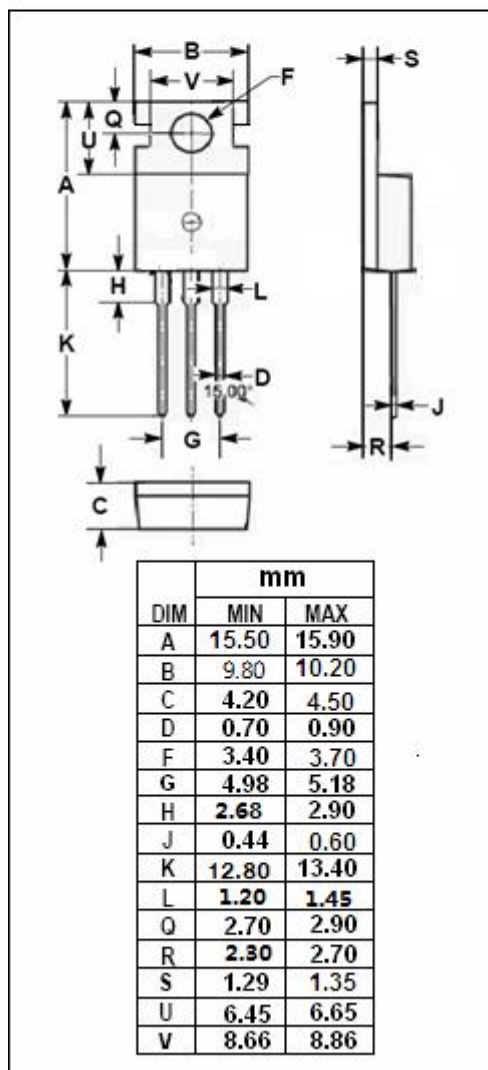
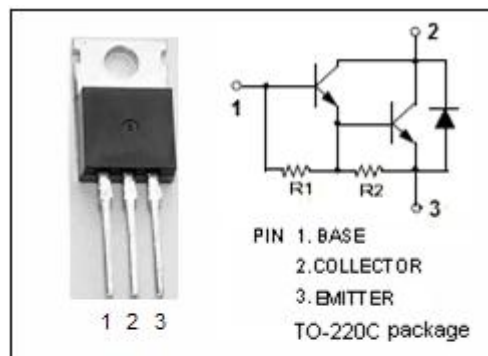
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 80V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 1500(\text{Min}) @ I_C = 5A$
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general-purpose power amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_{CP}	Collector Current-Peak	12	A
I_B	Base Current-Continuous	0.3	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	50	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD459****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	80			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 12mA			2.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 50mA			2.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 3A ; V _{CE} = 5V			2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; I _E = 0			0.2	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 80V; I _B = 0			0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			5	mA
h _{FE-1}	DC Current Gain	I _C = 3A ; V _{CE} = 5V	750			
h _{FE-2}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	1500			

Switching times

t _{on}	Turn-on Time	I _C = 3A , I _{B1} = I _{B2} = 12mA			10	μ s
t _{stg}	Storage Time				6.0	μ s
t _f	Fall Time				10	μ s

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