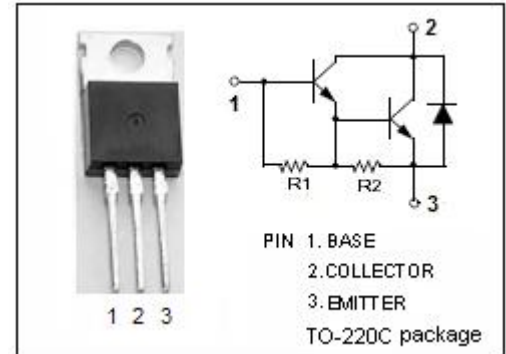


isc Silicon NPN Darlington Power Transistor
2SD1192
DESCRIPTION

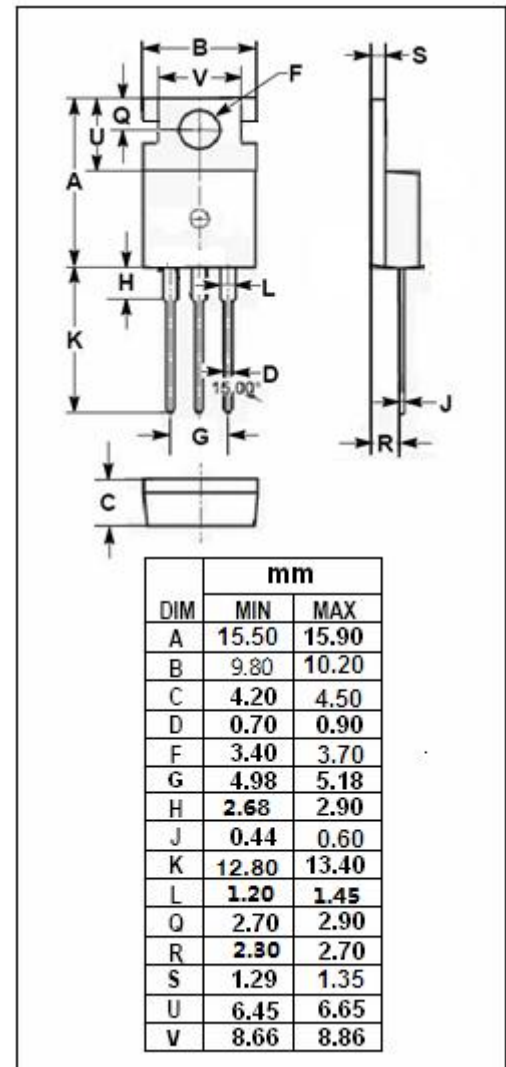
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = 5.0A$
- Low Saturation Voltage
- Complement to Type 2SB882
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for motor drivers, printer hammer drivers, relay drivers, voltage regulator control applications


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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	10	A
I_{CP}	Collector Current-Peak	15	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.75	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	40	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor

2SD1192

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	$I_C=50\text{mA}$; $R_{BE}=\infty$	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=5\text{mA}$; $I_E=0$	70			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=10\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=10\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=40\text{V}$; $I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			3.0	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=2\text{V}$	2000			
f_T	Current-Gain—Bandwidth Product	$I_C=5\text{A}$; $V_{CE}=5\text{V}$		20		MHz

Switching times

t_{on}	Turn-on Time			0.6		μs
t_{stg}	Storage Time	$I_C=5\text{A}$, $I_{B1}=-I_{B2}=10\text{mA}$ $R_L=4\Omega$; $V_{CC}=20\text{V}$; $P_W=50\mu\text{s}$; Duty Cycle $\leq 1\%$		3.0		μs
t_f	Fall Time			1.8		μs

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