

SPTECH Silicon NPN Darlington Power Transistor

DESCRIPTION

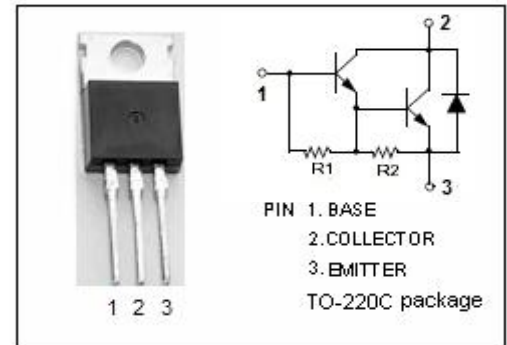
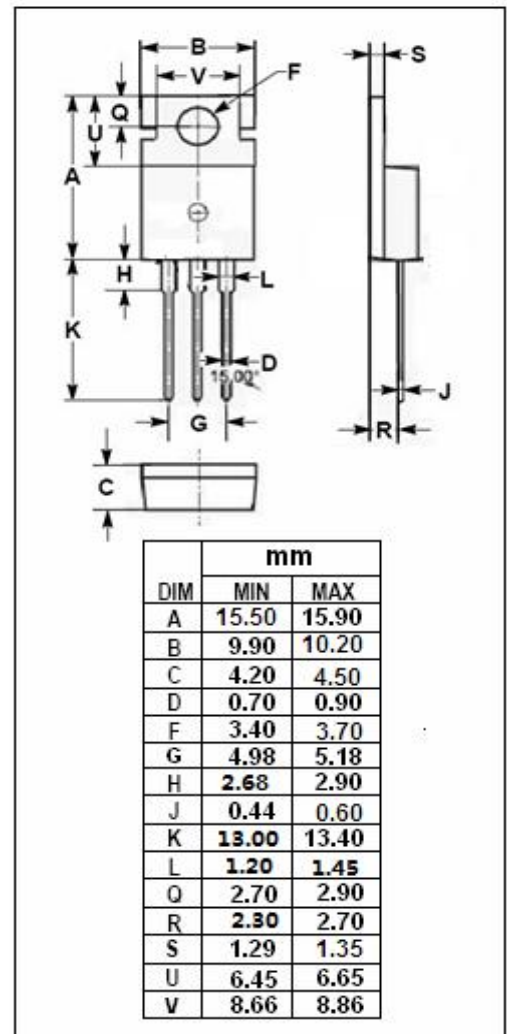
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400V$ (Min.)
- High DC Current Gain
: $h_{FE} = 600$ (Min.) @ $I_C = 2A$

APPLICATIONS

- Igniter applications.
- High voltage switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	6	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	30	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



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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	$I_C=10\text{mA}; I_B=0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=40\text{mA}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=40\text{mA}$			2.5	V
V_{ECF}	C-E Diode Forward Voltage	$I_F=4\text{A}$			3.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=600\text{V}; I_E=0$			0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			3.0	mA
h_{FE-1}	DC Current Gain	$I_C=2\text{A}; V_{CE}=2\text{V}$	600			
h_{FE-2}	DC Current Gain	$I_C=4\text{A}; V_{CE}=2\text{V}$	100			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=50\text{V}; f=1.0\text{MHz}$		35		pF

Switching times

t_{on}	Turn-on Time	$I_{B1}=I_{B2}=40\text{mA}; R_L=25\Omega;$ $V_{CC}=100\text{V};$ $P_W=20\mu\text{s}, \text{Duty Cycle}\leq 1\%$		1		μs
t_{stg}	Storage Time			8		μs
t_f	Fall Time			5		μs