

isc Silicon PNP Darlington Power Transistor

2STW200

DESCRIPTION

- With TO-3PN packaging
- Very high DC current gain
- Monolithic darlington transistor with integrated antiparallel collector-emitter diode
- Complement to Type 2STW100
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

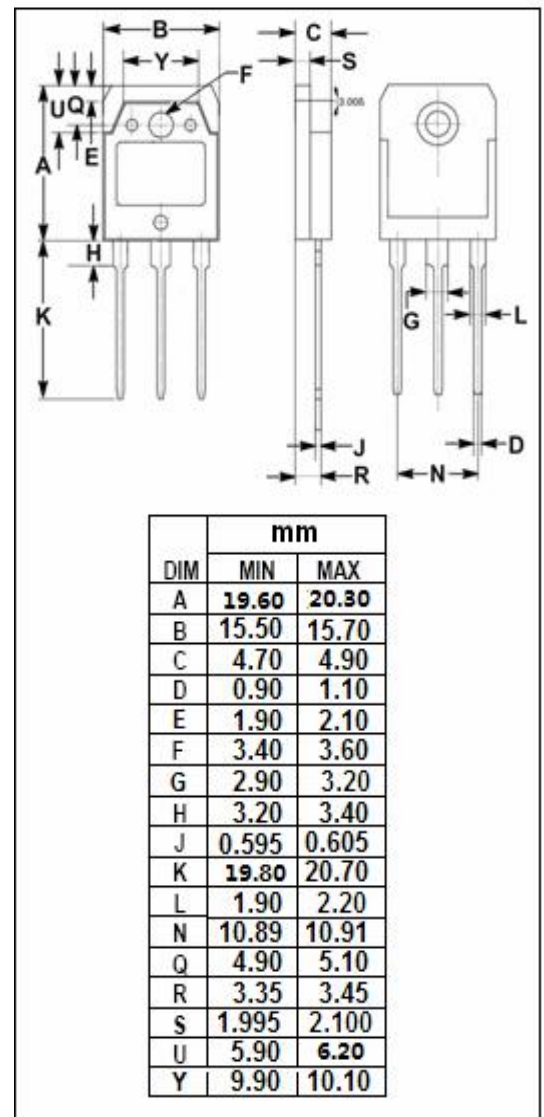
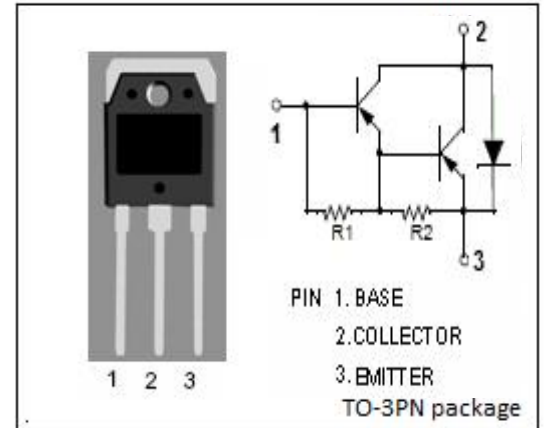
- AC-DC motor control
- Electronic ignition
- Alternator regulator

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	-25	A
I_{CM}	Collector Current-Peak	-40	A
I_B	Base Current	-6	A
P_C	Collector Power Dissipation	130	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.96	$^{\circ}\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^{\circ}\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=-50\text{mA}$, $I_B=0$	-80		V
$V_{CE(sat)1}$	Collector-Emitter Saturation Voltage	$I_C=-5\text{A}$, $I_B=-20\text{mA}$		-1.2	V
$V_{CE(sat)2}$	Collector-Emitter Saturation Voltage	$I_C=-10\text{A}$, $I_B=-40\text{mA}$		-1.75	V
$V_{CE(sat)3}$	Collector-Emitter Saturation Voltage	$I_C=-20\text{A}$, $I_B=-80\text{mA}$		-3.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=-20\text{A}$, $I_B=-80\text{mA}$		-3.3	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=-10\text{A}$; $V_{CE}=-3\text{V}$		-3.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=-80\text{V}$, $I_E=0$		-50	μA
I_{CEO}	Collector Cutoff Current	$V_{CE}=-80\text{V}$, $I_B=0$		-50	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=-5\text{V}$; $I_C=0$		-2	mA
h_{FE-1}	DC Current Gain	$I_C=-5\text{A}$; $V_{CE}=-3\text{V}$	600	15000	
h_{FE-2}	DC Current Gain	$I_C=-10\text{A}$; $V_{CE}=-3\text{V}$	500	12000	
h_{FE-3}	DC Current Gain	$I_C=-20\text{A}$; $V_{CE}=-3\text{V}$	300	6000	

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