

Silicon NPN Darlington Power Transistor

ET375

DESCRIPTION

- High Reliability
- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

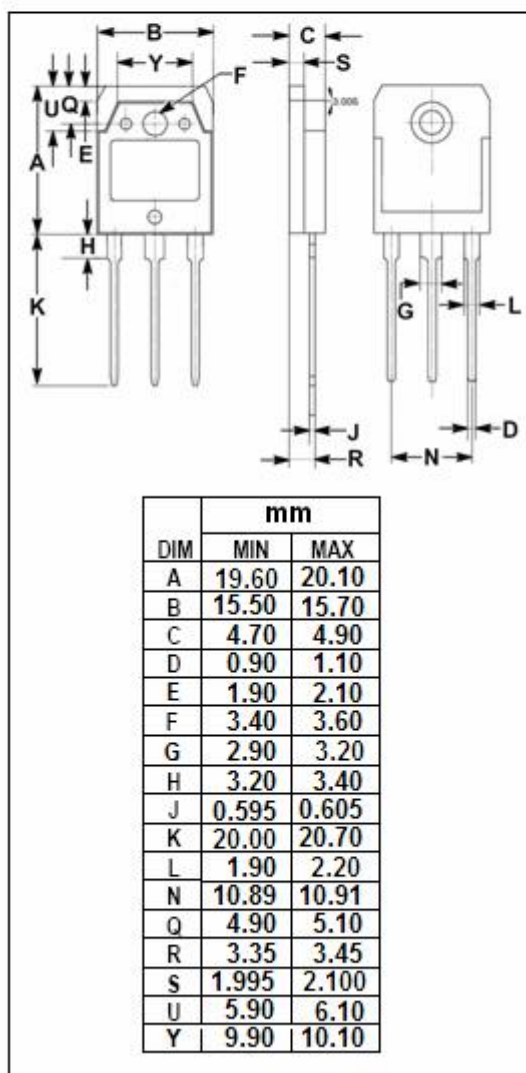
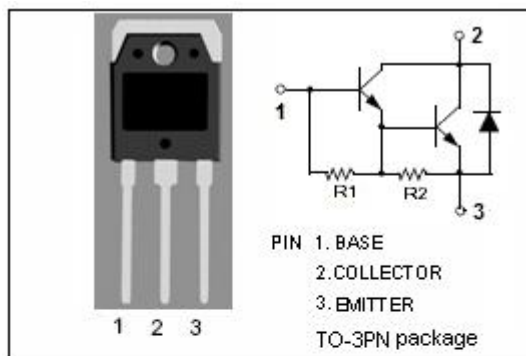
- Switching regulators
- Motor controls
- High frequency inverters
- General purpose power amplifier

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	650	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current- Continuous	2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	80	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 1A, I_B = 0$	450			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 1mA, I_E = 0$	650			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 15A, I_B = 0.5A$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 15A, I_B = 0.5A$			2.5	V
I_{CBO}	Collector Cutoff current	$V_{CB} = 600V, I_E = 0$			1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 6V, I_C = 0$			200	mA
h_{FE}	DC Current Gain	$I_C = 15A; V_{CE} = 5V$	100			

Switching Times

t_{on}	Turn-On Time	$I_C = 15A, I_{B1} = -I_{B2} = 0.5A;$ $R_L = 20\Omega; P_W = 20\mu s$ Duty Cycle $\leq 2\%$		1.0		μs
t_{stg}	Storage Time			12.0		μs
t_f	Fall Time			2.0		μs

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