

isc Silicon NPN Darlington Power Transistor

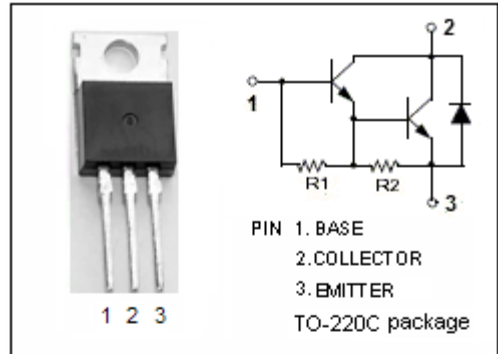
2SD835

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 400(\text{Min}) @ I_C = 4A$
- Low Collector Saturation Voltage-
: $V_{CE(\text{sat})} = 1.5V(\text{Max.}) @ I_C = 4A$

APPLICATIONS

- Electronic ignitor
- Relay & solenoid drivers
- Motor controls
- Switching regulators

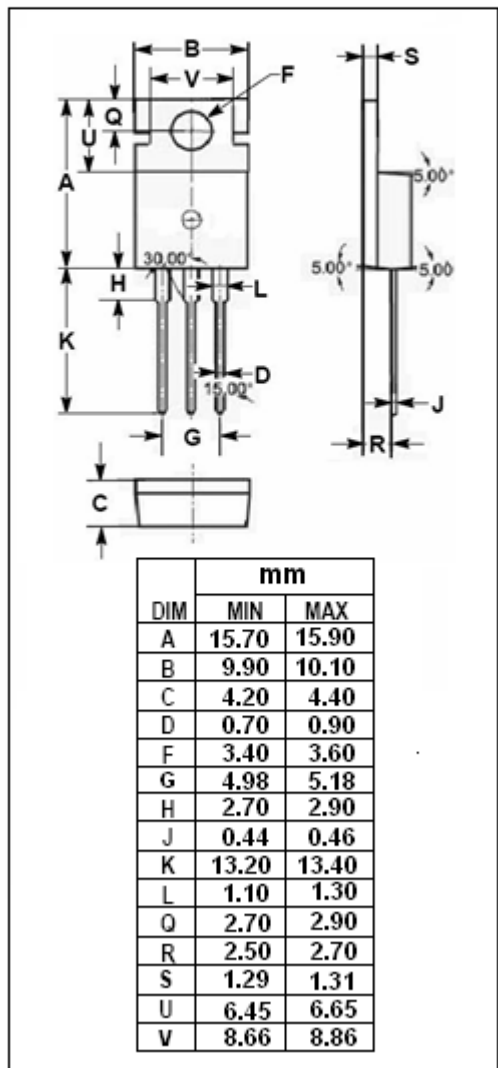


ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
$V_{CEO(\text{SUS})}$	Collector-Emitter Voltage	350	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	15	V
I_C	Collector Current-Continuous	6	A
I_B	Base Current-Continuous	0.3	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-45~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th j-c}}$	Thermal Resistance, Junction to Case	3.0	$^\circ\text{C/W}$



isc Silicon NPN Darlington Power Transistor**2SD835****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	$I_C=1\text{A}; I_B=0$	350			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=0.1\text{mA}; I_B=0$	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}; I_E=0$	400			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=100\text{mA}; I_C=0$	15			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=10\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=10\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=400\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=15\text{V}; I_C=0$			100	mA
h_{FE}	DC Current Gain	$I_C=4\text{A}; V_{CE}=1.5\text{V}$	400			

Switching Times

t_{on}	Turn-on Time	$I_C=4\text{A}, I_{B1}=-I_{B2}=40\text{mA},$ $R_L=10\Omega;$ $P_w=20\mu\text{s}, \text{DutyCycle}\leq 2\%$			1.0	μs
t_{stg}	Storage Time				12.0	μs
t_f	Fall Time				6.0	μs