

isc Silicon NPN Darlington Power Transistor

2SD1856

DESCRIPTION

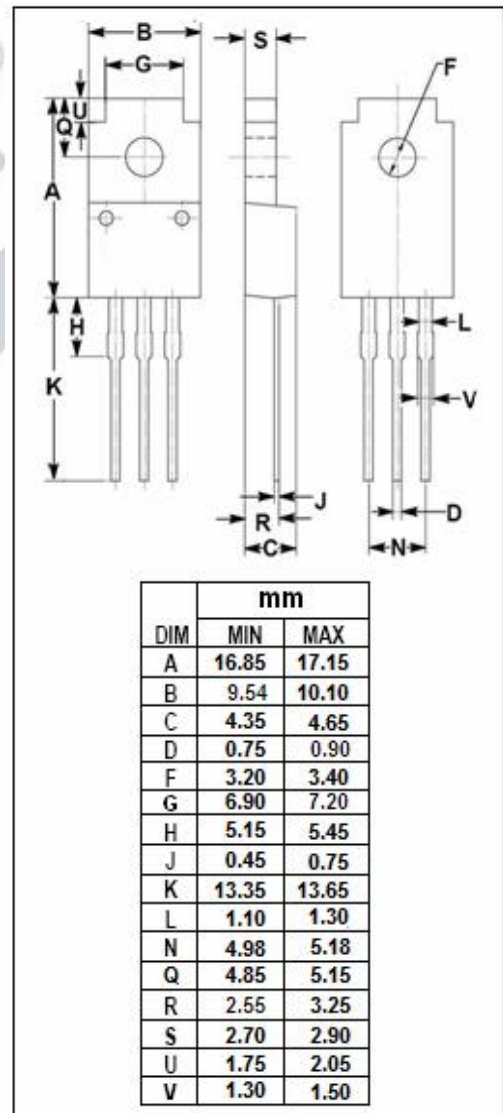
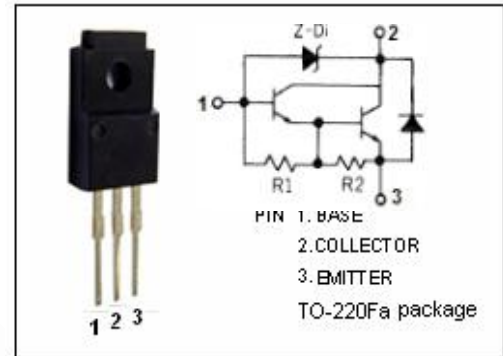
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = 2A$
- Low Collector Saturation Voltage
: $V_{CE(\text{sat})} = 1.5V(\text{Max.}) @ I_C = 2A$
- Built-in damper diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for Motor, Relay and Solenoid driver applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50-70	V
V_{CEO}	Collector-Emitter Voltage	50-70	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	5	A
I_{CP}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	25	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD1856****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	$I_C=5\text{mA}; I_B=0$	50		70	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}; I_E=0$	50		70	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=2\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=2\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=40\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			3.0	mA
h_{FE}	DC Current Gain	$I_C=2\text{A}; V_{CE}=3\text{V}$	2000		30000	
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}, f_{test}=1\text{MHz}$		75		pF