

isc Silicon NPN Darlington Power Transistor
2SD1361
DESCRIPTION

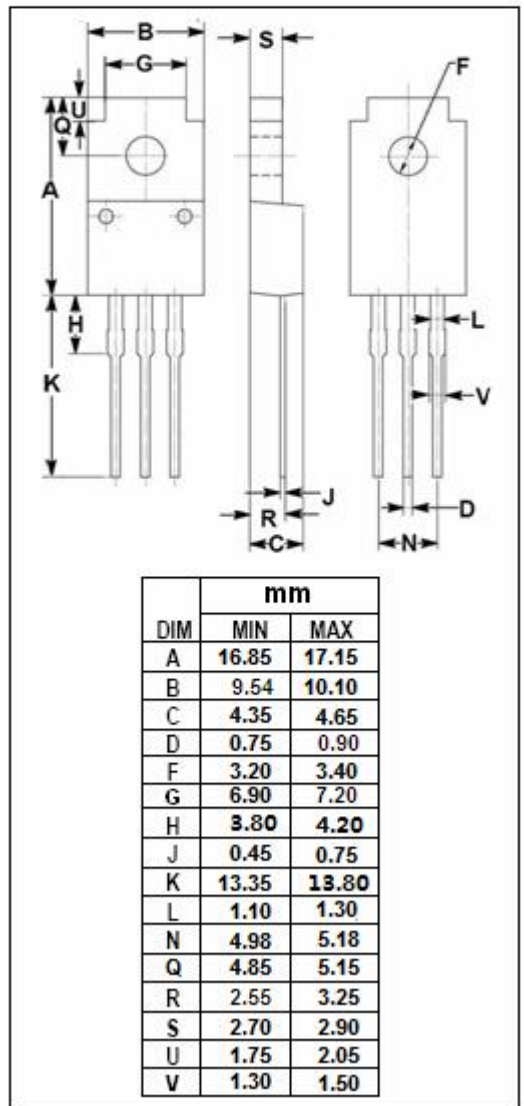
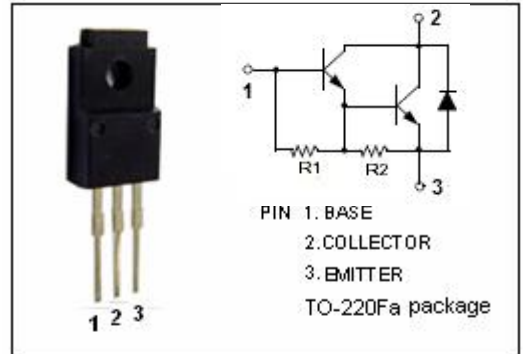
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 250V(\text{Min})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 2.0V(\text{Max}) @ I_C = 4A$
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = 2A, V_{CE} = 2V$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High voltage switching applications
- Igniter applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	350	V
V_{CEO}	Collector-Emitter Voltage	250	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 @ $T_c = 25^\circ\text{C}$	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA ; I _B = 0	250			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.04A			2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 0.04A			2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 300V; I _E = 0			0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			3.0	mA
h _{FE-1}	DC Current Gain	I _C = 2A ; V _{CE} = 2V	2000			
h _{FE-2}	DC Current Gain	I _C = 4A ; V _{CE} = 2V	200			
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 50V, f _{test} = 1MHz		35		pF

Switching times

t _{on}	Turn-on Time			1.0		μ s
t _{stg}	Storage Time	I _C = 4A , I _{B1} = I _{B2} =0.04A V _{CC} = 100V P _W =20 μ s; Duty Cycle ≤ 1%		8.0		μ s
t _f	Fall Time			5.0		μ s

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