

isc Silicon NPN Darlington Power Transistor
2SD1592
DESCRIPTION

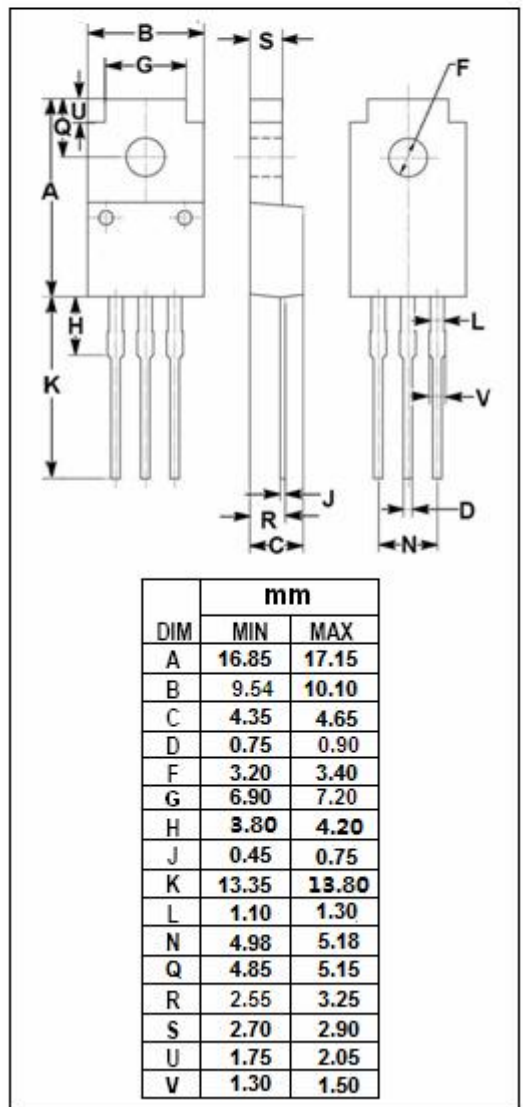
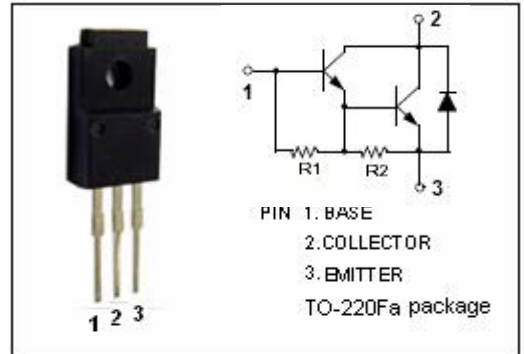
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 300V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 400(\text{Min}) @ I_C = 2A, V_{CE} = 2V$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max}) @ I_C = 2A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High voltage and low-speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.5	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	30	
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 = 10mA ; I _B = 0	300			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 5mA			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 5mA			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 400V; I _E = 0			10	uA
h _{FE-1}	DC Current Gain	I _C = 2A ; V _{CE} = 2V	400		3000	
h _{FE-2}	DC Current Gain	I _C = 3A ; V _{CE} = 2V	100			

Switching times

t _{on}	Turn-on Time	I _C =3A; I _{B1} = I _{B2} = 30mA R _L = 50 Ω ; V _{CC} = 150V		1.0		μ s
t _{stg}	Storage Time			12		μ s
t _f	Fall Time			6.0		μ s

◆ h_{FE-1} Classifications

M	L	K
400-800	600-1200	1000-3000

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