

isc Silicon NPN Darlington Power Transistor

2SD1987

DESCRIPTION

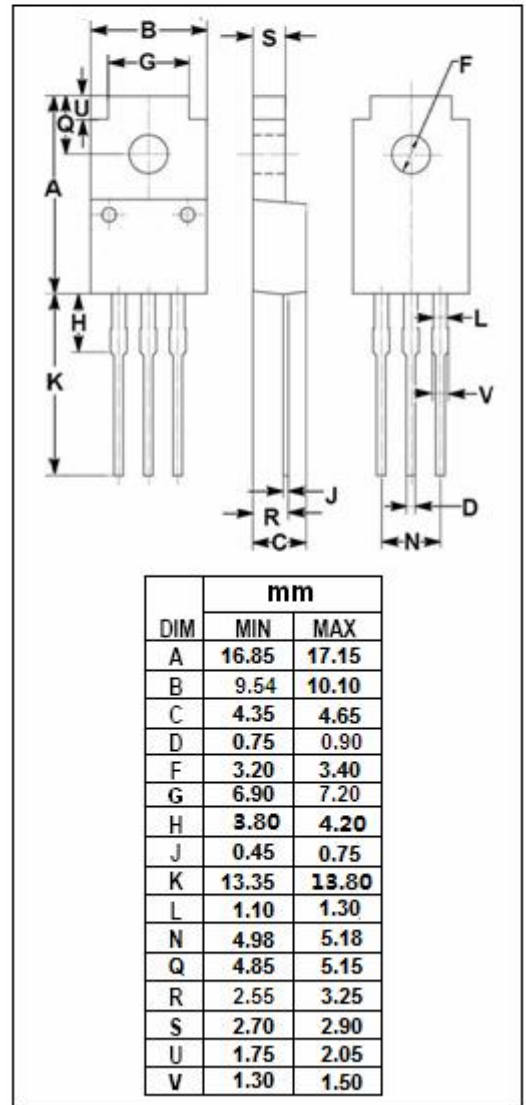
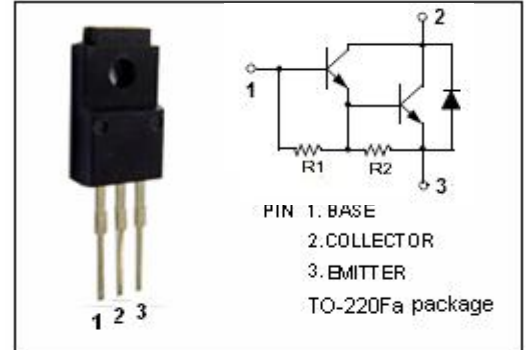
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min}) @ I_C = 2A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max}) @ I_C = 3A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching applications.
- Hammer drive, pulse motor drive applications.
- Power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	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	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD1987****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	60			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A, I _B = 6mA			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A, I _B = 6mA			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 60V, I _E = 0			10	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			3	mA
h _{FE-1}	DC Current Gain	I _C = 0.5A; V _{CE} = 3V	2000			
h _{FE-2}	DC Current Gain	I _C = 2A; V _{CE} = 3V	1000		10000	

Switching Times:

t _{on}	Turn-on Time	V _{CC} = 30V; I _{B1} = I _{B2} = 6mA, R _L = 10 Ω		0.2		μ s
t _{stg}	Storage Time			1.5		μ s
t _f	Fall Time			0.6		μ s

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