

isc Silicon NPN Power Transistor

MJD13003

DESCRIPTION

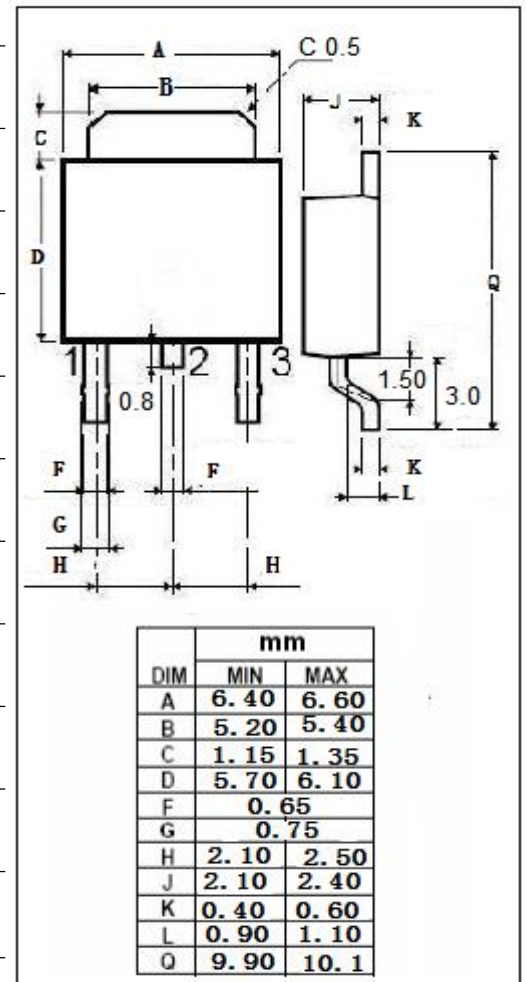
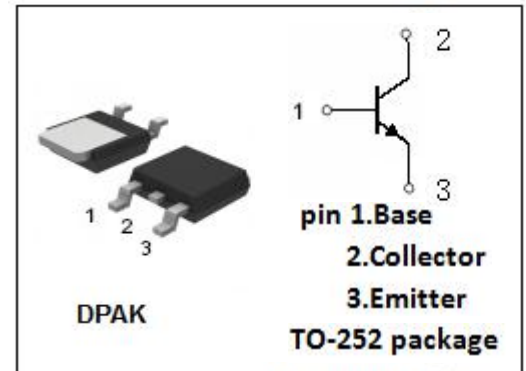
- Collector–Emitter Sustaining Voltage
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- Collector Saturation Voltage
: $V_{CE(sat)} = 1.0(\text{Max}) @ I_C = 1.0A$

APPLICATIONS

- Designed for use in high-voltage, high-speed, power switching in inductive circuit, they are particularly suited for 115 and 220V switchmode applications such as switching regulators, inverters, DC-DC converter, Motor control, Solenoid/Relay drivers and deflection circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	1.5	A
I_{CM}	Collector Current-peak	3.0	A
I_B	Base Current	0.75	A
I_{BM}	Base Current-Peak	1.5	A
P_D	Collector Power Dissipation $T_C=25^\circ\text{C}$	25	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

 $T_C = 25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 10\text{mA}; I_B = 0$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 0.5\text{A}; I_B = 0.1\text{A}$			0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 1\text{A}; I_B = 0.25\text{A}$ $T_C = 100^\circ\text{C}$			1.0 1.0	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = 1.5\text{A}; I_B = 0.5\text{A}$			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = 0.5\text{A}; I_B = 0.1\text{A}$			1.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = 1\text{A}; I_B = 0.25\text{A}$ $T_C = 100^\circ\text{C}$			1.2 1.1	V
I_{CEO}	Collector Cutoff Current	$V_{CB} = 400\text{V}; I_E = 0$ $T_C = 100^\circ\text{C}$			1 5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 9\text{V}; I_C = 0$			1	mA
h_{FE-1}	DC Current Gain	$I_C = 0.5\text{A}; V_{CE} = 5\text{V}$	14		57	
h_{FE-2}	DC Current Gain	$I_C = 1\text{A}; V_{CE} = 5\text{V}$	5		30	

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