

isc Silicon NPN Power Transistors
2N6678
DESCRIPTION

- High Voltage Capability
- Fast Switching Speed
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

Designed for high voltage switching applications such as:

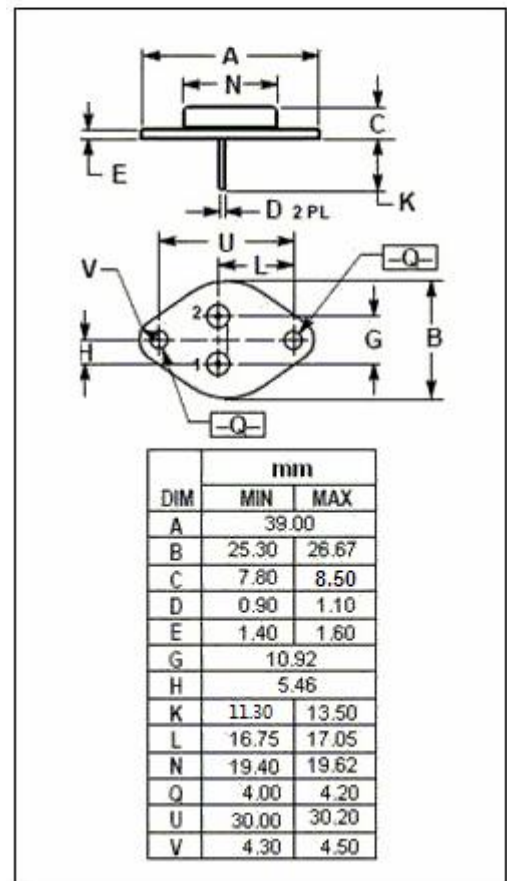
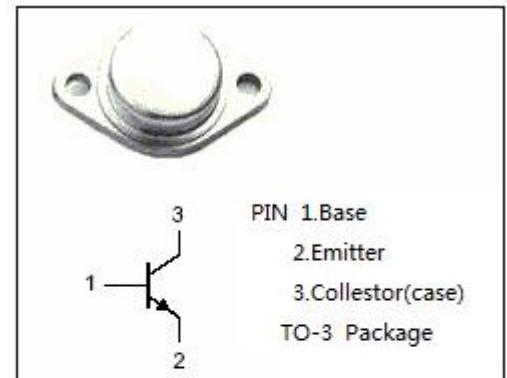
- Off-line power supplies
- Converter circuits
- PWM regulators

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CEV}	Collector-Emitter Voltage	650	V
V _{CEx}	Collector-Emitter Voltage	450	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	8.0	V
I _C	Collector Current-Continuous	15	A
I _{CM}	Collector Current-Peak	20	A
I _B	Base Current-Continuous	5.0	A
P _C	Collector Power Dissipation@T _c =25°C	175	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.0	°C/W



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C =30mA ; I _B =0	400		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 15A; I _B = 3.0A		1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A; I _B = 3.0A		1.5	V
I _{EBO}	Emitter Cutoff Current	V _{EB} = 8.0V; I _C =0		2.0	mA
I _{CBO}	Collector Base Cutoff Current	V _{CB} =650V; I _E = 0 V _{CB} =650V; I _E = 0; T _C =100°C		0.1 1	mA
h _{FE}	DC Current Gain	I _C = 15A ; V _{CE} = 3V	8.0		
f _T	Current Gain-Bandwidth Product	I _C = 1.0A ; V _{CE} = 10V; f _{test} =5.0MHz	3.0		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} =0.1MHz		500	pF

Switching times

t _d	Delay Time	I _C = 15A , V _{CC} = 200V, I _{B1} = -I _{B2} = 3A, t _p =20 μ s, Duty Cycle ≤ 2.0% V _{BB} =6V, R _L =13.5 Ω		0.2	μ s
t _r	Rise Time			0.6	μ s
t _s	Storage Time			2.5	μ s
t _f	Fall Time			0.6	μ s

Pulse test PW ≤ 300us, duty cycle ≤ 2%

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