

isc Silicon NPN Power Transistor

2N6837

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high-voltage ,high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line operated switch-mode applications.

Typical applications:

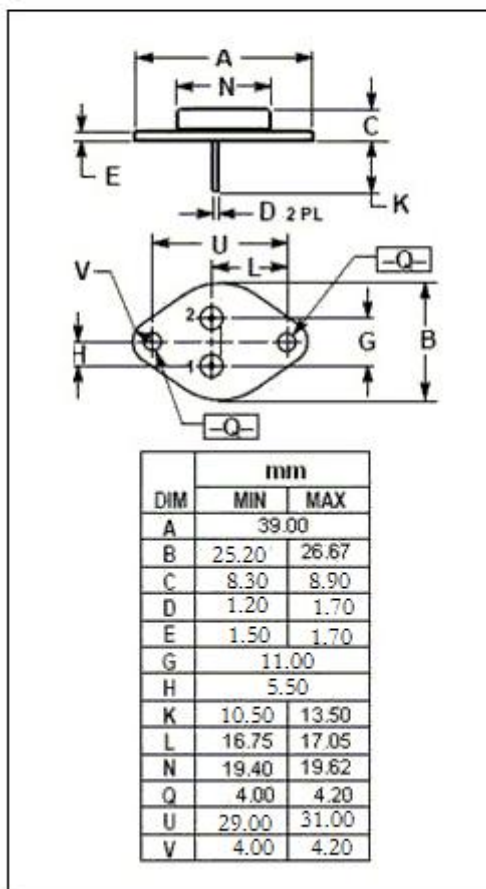
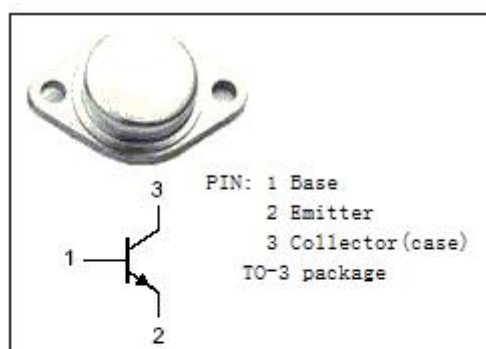
- Switching regulators
- Inverters
- Motor controls
- Deflection circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	850	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	15	A
I_{BM}	Base Current-Peak	20	A
P_C	Collector Power Dissipation@ $T_c=25^{\circ}\text{C}$	250	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance,Junction to Case	0.7	$^{\circ}\text{C/W}$



isc Silicon NPN Power Transistor**2N6837****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA ; I _B =0	450			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 10A; I _B = 1.2A			1.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 15A; I _B = 2A I _C = 15A; I _B = 2A, T _C =100°C			3.0 3.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A; I _B = 2A I _C = 15A; I _B = 2A, T _C =100°C			1.5 1.5	V
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6.0V; I _C =0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 15A ; V _{CE} = 5V	7.5		30	
h _{FE-2}	DC Current Gain	I _C = 20A ; V _{CE} = 5V	5			
f _T	Current Gain-Bandwidth Product	I _C = 0.25A ; V _{CE} = 10V; f _{test} =10MHz	10			MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} =1.0kHz	100			pF

Switching times;Resistive Load

t _d	Delay Time	I _C = 15A , V _{CC} = 250V; I _{B1} = 2A; I _{B2} = -4A; P _W = 30 μ s; R _{B2} = 1.6 Ω Duty Cycle≤2.0%		0.02	0.1	μ s
t _r	Rise Time			0.2	0.5	μ s
t _s	Storage Time			1.2	2.7	μ s
t _f	Fall Time			0.2	0.35	μ s

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