

isc Silicon NPN Power Transistor
2N6544
DESCRIPTION

- Excellent Safe Operating Area
- High Voltage, High Speed
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

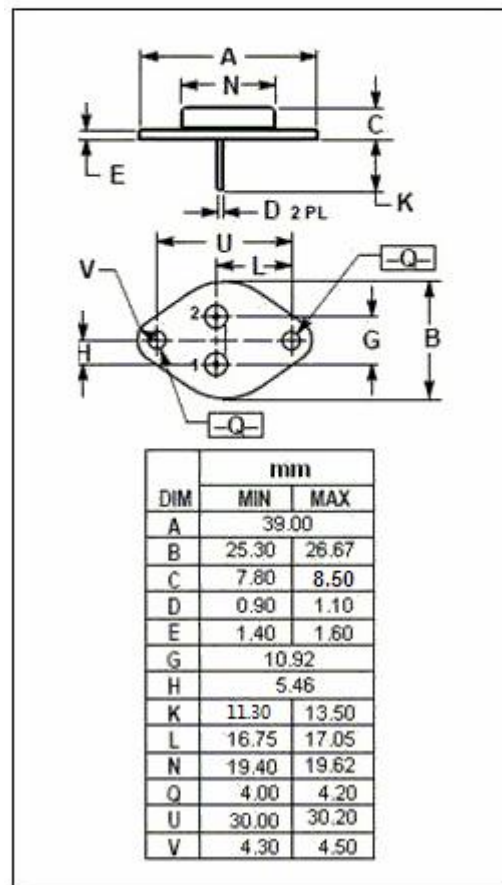
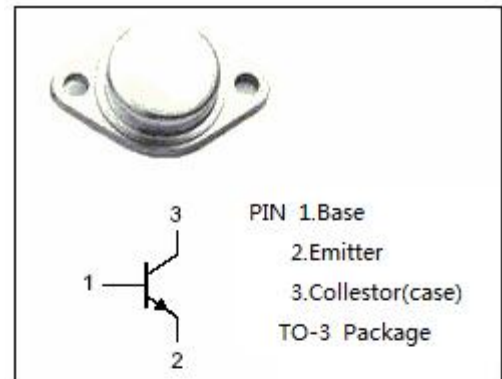
- Switching regulators
- PWM inverters and motor controls
- Solenoid and relay drivers
- Deflection circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	650	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	16	A
I_B	Base Current-Continuous	8	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	125	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.4	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	300		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1.0\text{A}$		1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=2.0\text{A}$		5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1.0\text{A}$		1.6	V
I_{EBO}	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$		1.0	mA
I_{CBO}	Collector Base Cutoff Current	$V_{CB}=650\text{V}; I_E=0$		0.5	mA
h_{FE-1}	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=3\text{V}$	12	60	
h_{FE-2}	DC Current Gain	$I_C=5\text{A}; V_{CE}=3\text{V}$	7	35	
f_T	Current Gain-Bandwidth Product	$I_C=0.3\text{A}; V_{CE}=10\text{V}; f_{test}=1.0\text{MHz}$	6.0		MHz

Switching times-Resistive Load

t_d	Delay Time	$I_C=5\text{A}, V_{CC}=250\text{V},$ $I_{B1}=-I_{B2}=1\text{A}, t_p=0.1\text{ms}$ Duty Cycle $\leq 2.0\%$		0.05	μs
t_r	Rise Time			1.0	μs
t_s	Storage Time			4.0	μs
t_f	Fall Time			1.0	μs

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