Silicon NPN Power Transistors 2N6477 2N6478

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DESCRIPTION

·With TO-220 package
·Low collector saturation voltage
·High voltage ratings
·Excellent safe operating area

APPLICATIONS

·Series and shunt regulators
·High-fidelity amplifiers
·Power switching circuits
·Solenoid drivers

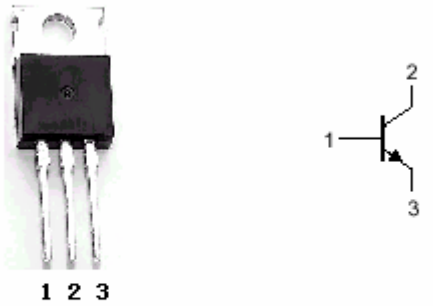

Fig.1 simplified outline (TO-220C) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6477	Open emitter	140	V
		2N6478		160	
V_{CEO}	Collector-emitter voltage	2N6477	Open base	120	V
		2N6478		140	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			2.5	A
I_{CM}	Collector current-peak			4	A
I_B	Base current			1	A
P_T	Total power dissipation		T_C=25□	50	W
T_j	Junction temperature			150	□
T_{stg}	Storage temperature			-65~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance from junction to case	2.5	□/W

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	2N6477	I_C=0.1A ;I_B=0	120			V
		2N6478		140			
$V_{CEsat-1}$	Collector-emitter saturation voltage		I_C=1.0A;I_B=0.1A			1.0	V
$V_{CEsat-2}$	Collector-emitter saturation voltage		I_C=2.5A;I_B=0.5A			2.0	V
V_{BE-1}	Base-emitter on voltage		I_C=1.0A ; V_{CE}=4V			1.8	V
V_{BE-2}	Base-emitter on voltage		I_C=2.5A ; V_{CE}=4V			3.0	V
I_{CEX}	Collector cut-off current V_{BE}=-1.5V	2N6477	V_{CE}=130V V_{CE}=120V; T_C=150□			2.0 10	mA
		2N6478	V_{CE}=150V V_{CE}=140V; T_C=150□			2.0 10	
I_{CEO}	Collector cut-off current	2N6477	V_{CE}=80V;I_B=0			2.0	mA
		2N6478	V_{CE}=100V;I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			2.0	mA
h_{FE-1}	DC current gain		I_C=1.0A ; V_{CE}=4V	25		150	
h_{FE-2}	DC current gain		I_C=2.5A ; V_{CE}=4V	5			
C_{OB}	Output capacitance		I_E=0 ; V_{CB}=10V;f=1MHz			250	pF
f_T	Transition frequency		I_C=0.5A ; V_{CE}=4V		0.2		MHz

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PACKAGE OUTLINE

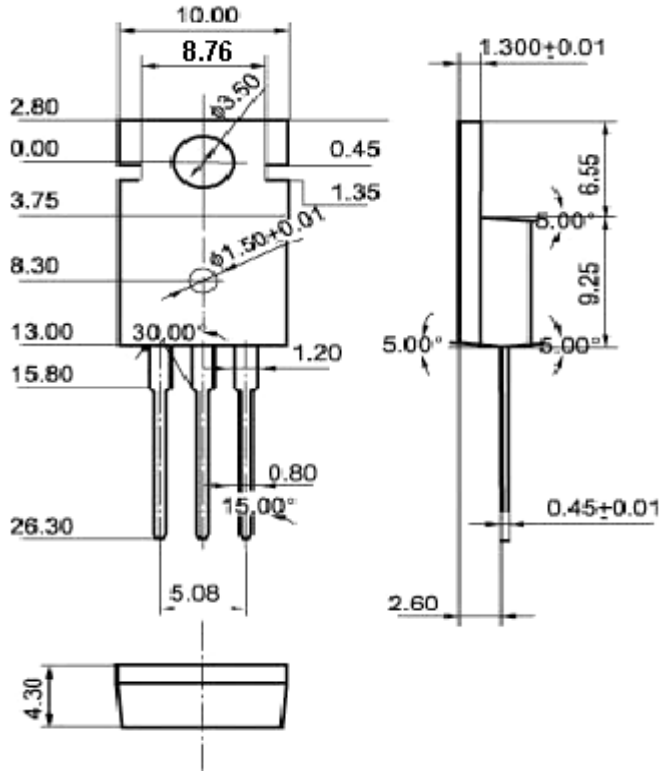

Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)

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