Silicon NPN Power Transistors 2N6386 2N6387 2N6388

DESCRIPTION

·With TO-220C package
·Complement to type 2N6666/6667/6668
·DARLINGTON
·High DC current gain
·Low collector saturation voltage

APPLICATIONS

·Designed for general-purpose amplifier and low speed switching applications

PINNING

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

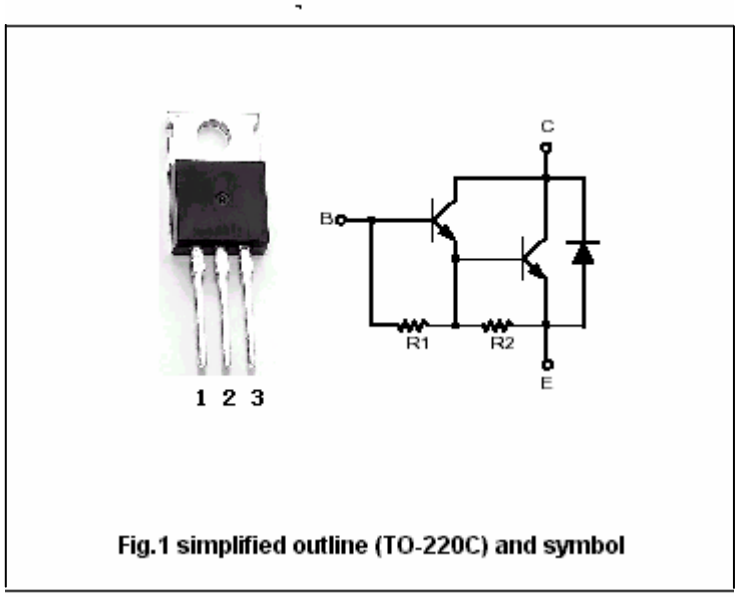

Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Tc=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6386	Open emitter	40	V
		2N6387		60	
		2N6388		80	
V_{CEO}	Collector-emitter voltage	2N6386	Open base	40	V
		2N6387		60	
		2N6388		80	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current-DC	2N6386		8	A
		2N6387/6388		10	
I_{CM}	Collector current-Pulse			15	A
I_B	Base current-DC			0.25	A
P_C	Collector power dissipation		T_C=25□	65	W
T_j	Junction temperature			150	□
T_{stg}	Storage temperature			-65~150	□

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	2N6386	I_C=0.2A, I_B=0	40			V
		2N6387		60			
		2N6388		80			
$V_{CEsat-1}$	Collector-emitter saturation voltage	2N6386	I_C=3A ,I_B=6mA			2.0	V
		2N6387/6388	I_C=5A ,I_B=10mA				
$V_{CEsat-2}$	Collector-emitter saturation voltage	2N6386	I_C=8A ,I_B=80mA			3.0	V
		2N6387/6388	I_C=10A ,I_B=100mA				
V_{BE-1}	Base-emitter on voltage	2N6386	I_C=3A ; V_{CE}=3V			2.8	V
		2N6387/6388	I_C=5A ; V_{CE}=3V				
V_{BE-2}	Base-emitter on voltage	2N6386	I_C=8A ; V_{CE}=3V			4.5	V
		2N6387/6388	I_C=10A ; V_{CE}=3V				
I_{CBO}	Collector cut-off current	2N6386	V_{CB}=40V, V_{BE}=-1.5V T_C=125□			0.3 3.0	mA
		2N6387	V_{CB}=60V, V_{BE}=-1.5V T_C=125□			0.3 3.0	
		2N6388	V_{CB}=80V, V_{BE}=-1.5V T_C=125□			0.3 3.0	
I_{CEO}	Collector cut-off current	2N6386	V_{CE}=40V, I_B=0			1.0	mA
		2N6387	V_{CE}=60V, I_B=0				
		2N6388	V_{CE}=80V, I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			5.0	mA
h_{FE-1}	DC current gain	2N6386	I_C=3A ; V_{CE}=3V	1000		20000	
		2N6387/6388	I_C=5A ; V_{CE}=3V				
h_{FE-2}	DC current gain	2N6386	I_C=8A ; V_{CE}=3V	100			
		2N6387/6388	I_C=10A ; V_{CE}=3V				
C_{ob}	Output capacitance		I_E=0 ; V_{CB}=10V,f=0.1MHz			200	pF

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.92	□/W

PACKAGE OUTLINE

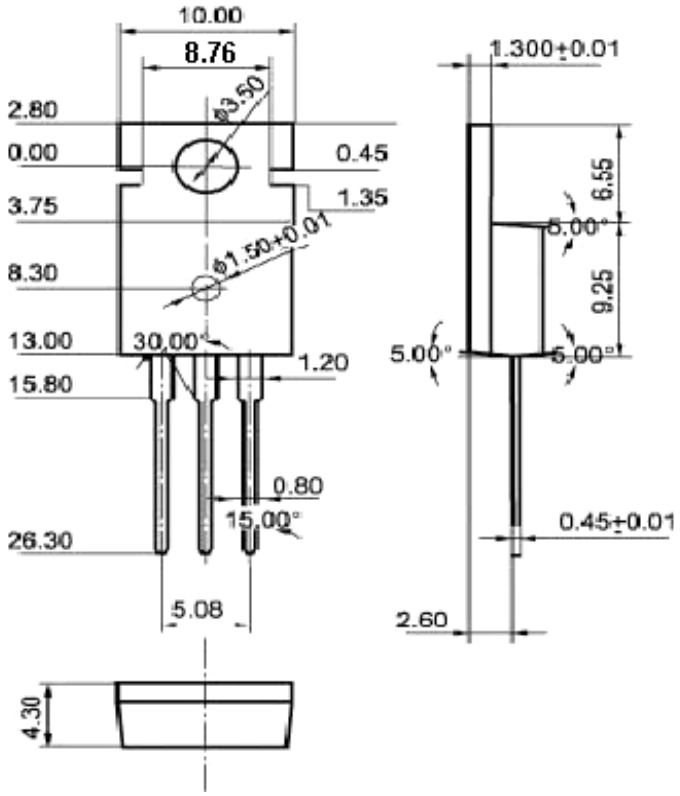

Fig.2 Outline dimensions