Silicon NPN Power Transistors 2N5664 2N5665

DESCRIPTION

·With TO-66 package
·High breakdown voltage

APPLICATIONS

·High speed switching and linear amplifier
·High-voltage operational amplifiers
·Switching regulators ,converters
·Deflection stages and high fidelity amplifers

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Fig.1 simplified outline (TO-66) and symbol

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5664	Open emitter	250	V
		2N5665		400	
V_{CEO}	Collector-emitter voltage	2N5664	Open base	200	V
		2N5665		300	
V_{EBO}	Emitter-base voltage		Open collector	6	V
I_C	Collector current			5.0	A
I_B	Base current			1.0	A
P_T	Total power dissipation		T_C=25□	52.5	W
T_j	Junction temperature			200	□
T_{stg}	Storage temperature			-65~200	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance junction to case	5.0	□/W

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	2N5664	I_C=10mA ; I_B=0	200			V
		2N5665		300			
$V_{(BR)EBO}$	Emitter-base breakdown voltage		I_E=10μA ; I_C=0	6			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	2N5664	I_C=3A; I_B=0.3A			0.4	V
		2N5665	I_C=3A; I_B=0.6A				
$V_{CEsat-2}$	Collector-emitter saturation voltage		I_C=5A; I_B=1A			1.0	V
$V_{BEsat-1}$	Base-emitter saturation voltage	2N5664	I_C=3A; I_B=0.3A			1.2	V
		2N5665	I_C=3A; I_B=0.6A				
$V_{BEsat-2}$	Base-emitter saturation voltage		I_C=5A; I_B=1A			1.5	V
I_{CES}	Collector cut-off current	2N5664	V_{CE}=200V;$V_{BE(off)}$=1.5V			0.2	mA
		2N5665	V_{CE}=300V;$V_{BE(off)}$=1.5V				
I_{CBO}	Collector cut-off current	2N5664	V_{CB}=250V; I_E=0			1.0	mA
		2N5665	V_{CB}=400V; I_E=0				
h_{FE-1}	DC current gain	2N5664	I_C=0.5A ; V_{CE}=2V	40			
		2N5665		25			
h_{FE-2}	DC current gain	2N5664	I_C=1A ; V_{CE}=5V	40		120	
		2N5665		25		75	
h_{FE-3}	DC current gain	2N5664	I_C=3A ; V_{CE}=5V	15			
		2N5665		10			
h_{FE-4}	DC current gain		I_C=5A ; V_{CE}=5V	5			
C_{OB}	Output capacitance		I_E=0 ; V_{CB}=10V;f=1MHz			120	pF
t_{on}	Turn-on time		V_{CC}=30V;I_C=1A;I_{B1}=-I_{B2}=30mA			0.25	μs
t_{off}	Turn-off time	2N5664	V_{CC}=30V;I_C=1A;I_{B1}=-I_{B2}=50mA			1.5	μs
		2N5665				2.0	

PACKAGE OUTLINE

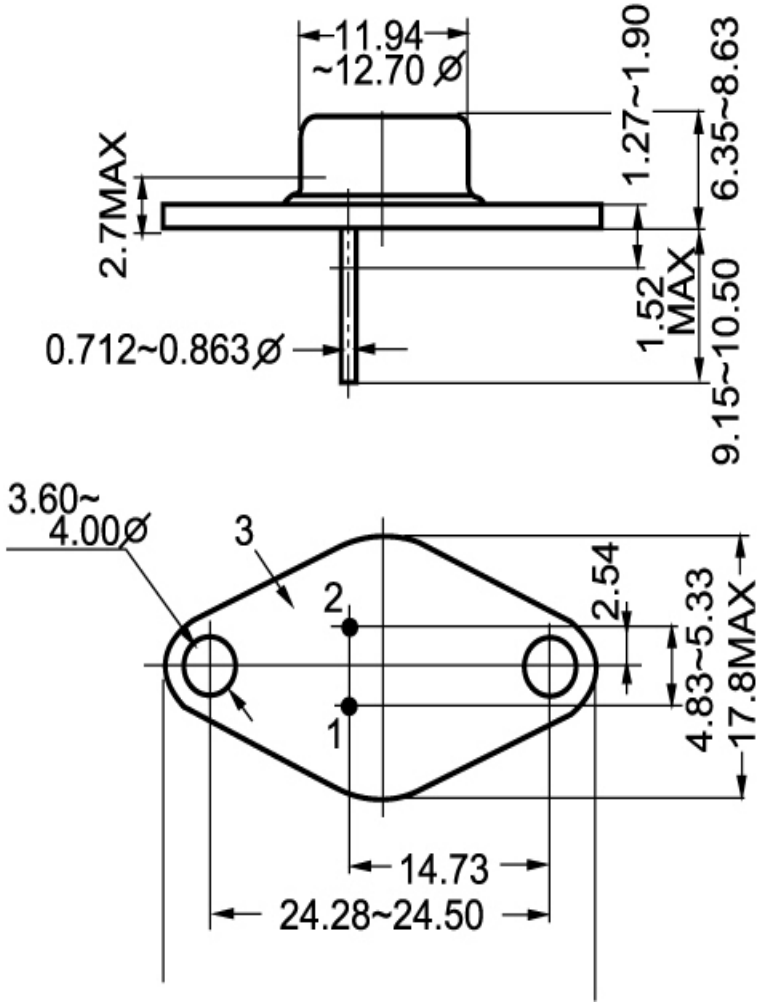

Fig.2 Outline dimensions