

NPN Epitaxial Silicon Transistor KSD1588

Low Frequency Power Amplifier

- Low Speed Switching
- This is a Pb-Free Device

ABSOLUTE MAXIMUM RATINGS

 $(T_C = 25^{\circ}C \text{ unless otherwise noted.})$

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	100	V
V _{CEO}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current (DC)	7	Α
I _{CP}	Collector Current (Pulse) (Note 1)	15	Α
lΒ	Base Current	3.5	Α
P _C	Collector Dissipation (T _A = 25°C)	2	W
	Collector Dissipation (T _C = 25°C)	30	W
TJ	Junction Temperature	150	°C
T _{STG}	Storage Temperature	−55 ~ 150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. PW \leq 300 μ s, Duty Cycle \leq 10%.



MARKING DIAGRAM



D1588 = Specific Device Code

 $Y = h_{FE}$ Grade A = Site Code

YWW = Date Code (Year & Week) ZZ = Assembly Lot Code

ORDERING INFORMATION

Device	Package	Shipping
KSD1588YTU	TO-220 Fullpack (Pb-Free)	1,000 Units / Tube

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted.)

Symbol	Parameter	Test Conditions	Min	Max	Unit
I _{CBO}	Collector Cut-off Current	V _{CB} = 80 V, I _E = 0	-	10	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 5 \text{ V}, I_{C} = 0$	-	10	μΑ
h _{FE1} h _{FE2}	DC Current Gain (Note 2)	V _{CE} = 1 V, I _C = 3 A V _{CE} = 1 V, I _C = 5 A	40 20	200 -	
V _{CE} (sat)	Collector-Emitter Saturation Voltage (Note 2)	I _C = 5 A, I _B = 0.5 A	-	0.5	V
V _{BE} (sat)	Base-Emitter Saturation Voltage (Note 2)	I _C = 5 A, I _B = 0.5 A	-	1.5	V

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

2. Pulse Test: $PW \le 350 \mu s$, Duty Cycle $\le 2\%$.

h_{FE1} Classification

Classification	R	0	Υ
h _{FE1}	40 ~ 80	80 ~ 120	100 ~ 200

KSD1588

TYPICAL CHARACTERISTICS

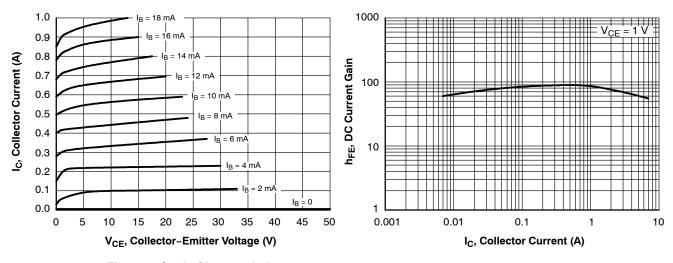


Figure 1. Static Characteristic

Figure 2. DC Current Gain

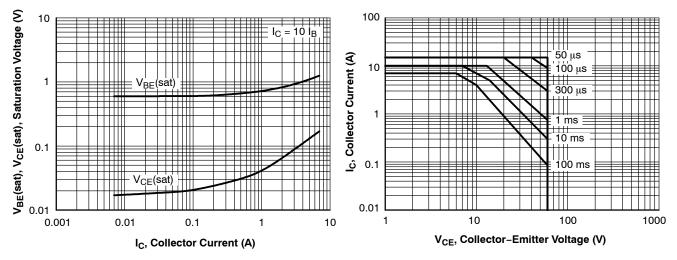


Figure 3. Base-Emitter Saturation Voltage and Collector-Emitter Saturation Voltage

Figure 4. Safe Operating Area

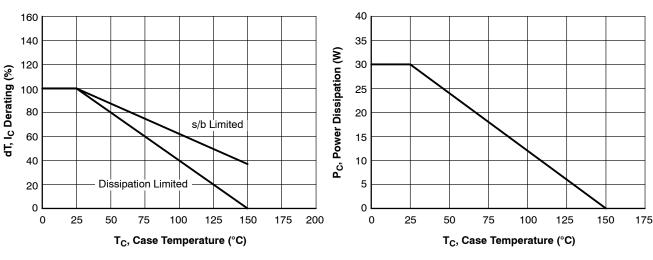
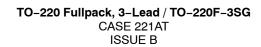


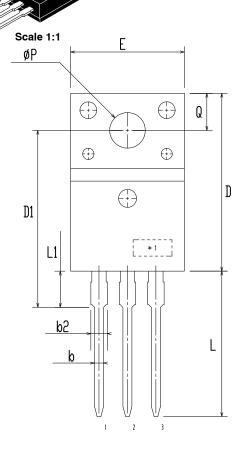
Figure 5. Derating Curve Safe Operating Area

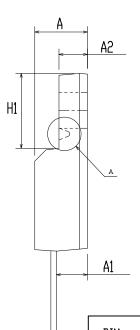
Figure 6. Power Derating

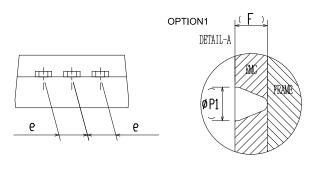




DATE 19 JAN 2021







DIM	MILLIMITENS			
ויונע	MIN	NDM	MAX	
Α	4.50	4.70	4.90	
A1	2.56	2.76	2.96	
A2	2.34	2.54	2.74	
b	0.70	0.80	0.90	
b2	~	2	1.47	
С	0.45	0.50	0.60	
D	15.67	15.87	16.07	
D1	15.60	15.80	16.00	
E	9.96	10.16	10.36	
е	2.34	2.54	2.74	
F	~	0.84	2	
H1	6.48	6.68	6.88	
L	12.78	12.98	13.18	
L1	3.03	3.23	3.43	
ØΡ	2.98	3.18	3,38	
ø P1	~	1.00	~	
Q	3,20	3.30	3.40	

MILL IMITERS

NOTES:

- A. DIMENSION AND TOLERANCE AS ASME Y14.5-2009
- B. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUCSIONS.

C

C. OPTION 1 - WITH SUPPORT PIN HOLE OPTION 2 - NO SUPPORT PIN HOLE

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DESCRIPTION:	TO-220 FULLPACK, 3-LEAD / TO-220F-3SG		PAGE 1 OF 1	

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