

KSD1616 KSD1616A

Features

- Audio frequency power amplifier & medium speed switching
- Complement to KSB1116/1116A

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage		
	KSD1616 KSD1616A	50 60	V
V_{CBO}	Collector-Base Voltage		
	KSD1616 KSD1616A	60 120	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector Current (DC)	1.0	A
I_{CP}	Collector Current (Pulse) ⁽¹⁾	2.0	A
P_C	Collector power dissipation	0.75	W
T_J	Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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OFF CHARACTERISTICS

I_{CBO}	Collector Cutoff Current ($V_{CB}=60Vdc, I_E=0$)	---	---	100	nAdc
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=6.0Vdc, I_C=0$)	---	---	100	nAdc

ON CHARACTERISTICS

h_{FE-1}	DC Current Gain ($I_C=100mA, V_{CE}=2.0Vdc$)	KSD1616	135	---	600	---
		KSD1616A	135	---	400	---
h_{FE-2}	DC Current Gain ($V_{CE}=2.0Vdc, I_C=1.0Adc$)	81	---	---	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ⁽²⁾ ($I_C=1.0Adc, I_E=50mA$)	---	0.15	0.3	Vdc	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ⁽²⁾ ($I_C=1.5Adc, I_E=75mA$)	---	0.9	1.2	Vdc	
$V_{BE(ON)}$	Base-Emitter On Voltage ⁽²⁾ ($V_{CE}=2.0Vdc, I_C=50mA$)	600	640	700	mVdc	
f_T	Current Gain Bandwidth Product ($I_C=100mA, V_{CE}=2.0Vdc$)	100	160	---	MHz	
C_{ob}	Collector Output Capacitance ($V_{CE}=10Vdc, I_E=0, f=1.0MHz$)	---	19	---	pF	
T_{ON}	Turn On Time	$V_{CC}=10V,$ $I_C=100mA,$ $I_{B1}=I_{B2}=10mA,$ $V_{BE(off)}=2\sim 3V$	---	0.07	---	us
t_{STG}	Storage Time		---	0.95	---	us
T_F	Fall Time		---	0.07	---	us

$h_{FE(1)}$ Classification

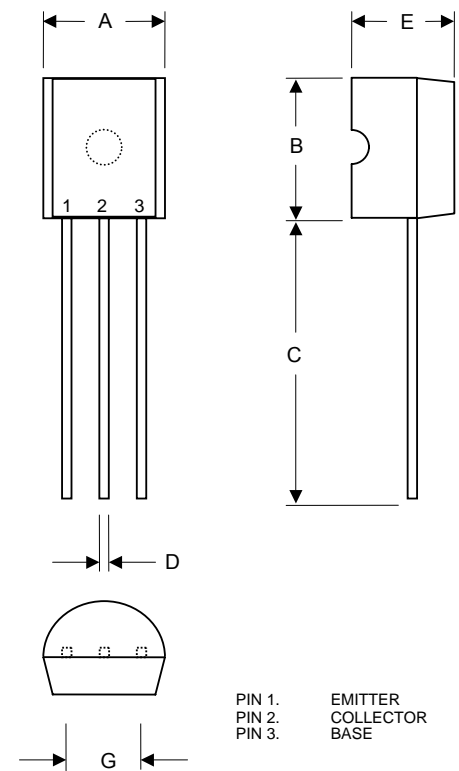
Classification	Y	G	L
h_{FE-1}	135-270	200-400	300-600

(1) $PW < 10ms$, Duty Cycle $< 50\%$

(2) (2) Pulse Test: $PW < 350us$, Duty Cycle $< 2\%$ Pulsed

NPN Silicon Epitaxial Transistors

TO-92



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.46	4.70	
C	.500	---	12.7	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	