

# KSD1616-Y/G/L

# KSD1616A-Y/G

## NPN Silicon Epitaxial Transistors

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Audio frequency power amplifier & medium speed switching
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: D1616 X

### Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CE0}$	Collector-Emitter Voltage	KSD1616	50
		KSD1616A	60
$V_{CBO}$	Collector-Base Voltage	KSD1616	60
		KSD1616A	120
$V_{EBO}$	Emitter-Base Voltage	6.0	V
$I_C$	Collector Current (DC)	1.0	A
$I_{CP}$	Collector Current (Pulse) <sup>(1)</sup>	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 ( $V_{CB}=60V_{dc}, I_E=0$ )	---	---	100	nAdc
$I_{EBO}$	Emitter-Base Cutoff Current ( $V_{EB}=6.0V_{dc}, I_C=0$ )	---	---	100	nAdc

#### ON CHARACTERISTICS

$h_{FE-1}$	DC Current Gain ( $I_C=100mAdc, V_{CE}=2.0V_{dc}$ )	KSD1616	135	---	600	---
		KSD1616A	135	---	400	---
$h_{FE-2}$	DC Current Gain ( $V_{CE}=2.0V_{dc}, I_C=1.0Adc$ )	81	---	---	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage <sup>(2)</sup> ( $I_C=1.0Adc, I_B=50mAdc$ )	---	0.15	0.3	Vdc	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage <sup>(2)</sup> ( $I_C=1.5Adc, I_B=75mAdc$ )	---	0.9	1.2	Vdc	
$V_{BE(ON)}$	Base-Emitter On Voltage <sup>(2)</sup> ( $V_{CE}=2.0V_{dc}, I_C=50mAdc$ )	600	640	700	mVdc	
$f_T$	Current Gain Bandwidth Product ( $I_C=100mAdc, V_{CE}=2.0V_{dc}$ )	100	160	---	MHz	
$C_{ob}$	Collector Output Capacitance ( $V_{CE}=10V_{dc}, I_E=0, f=1.0MHz$ )	---	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

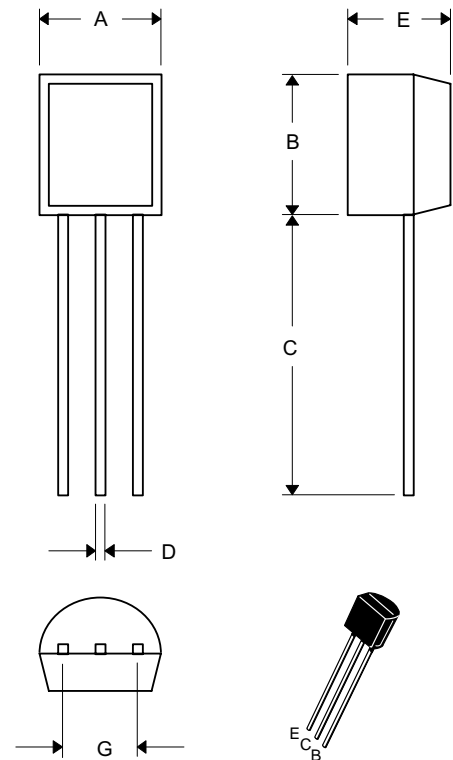
#### $h_{FE(1)}$ Classification

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

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

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

### TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	-----	12.70	-----	
D	.016	.020	0.41	0.56	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	



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### Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 2Kpcs/Ammo Box
Part Number-BP	Bulk: 100Kpcs/Carton

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