KSG13003AR

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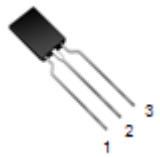
KSG13003AR

Switch Mode series NPN silicon Power Transistor

- High voltage, high speed power switching

1.5 Amperes
NPN Silicon Power Transistor
1.5 Watts

TO-92L
1. Emitter
2. Collector
3. Base



Absolute Maximum Ratings TC=25℃ unless otherwise noted

CHARACTERISTICS	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current(DC)	I_C	1.5	A
Collector Current(Pulse)	I_{CP}	3	A
Base Current	I_B	0.75	A
Collector Dissipation(Tc=25℃)	P_C	1.5	W
Storage Temperature	T_{STG}	150	℃
Max. Operating Junction Temperature	T_J	-65~150	℃

Electrical Characteristics TC=25℃ unless otherwise noted

CHARACTERISTICS	SYMBOL	Test Condition	Min	Typ.	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	I_C=500uA, I_E=0	700			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=5mA, I_B=0	400			V
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V,I_C=0			10	μA
*DC Current Gain	h_{FE1} h_{FE2}	V_{CE}=2V,I_C=0.5A V_{CE}=2V,I_C=1A	9 5		35	
*Collector-Emitter Saturation Voltage	V_{CE}(sat)	I_C=0.5A,I_B=0.1A I_C=1A,I_B=0.25A I_C=1.5A,I_B=0.5A			0.5 1.0 3.0	V V V
*Base-Emitter Saturation Voltage	V_{BE}(sat)	I_C=0.5A,I_B=0.1A I_C=1A,I_B=0.25A			1.0 1.2	V V
Output Capacitance	C_{ob}	V_{CB}=10V, f=0.1MHz		21		pF
Current Gain Bandwidth Product	f_T	V_{CE}=10V,I_C=0.1A	4			MHz
Turn on Time	t_{on}	Vcc=125V, Ic=2A I_{B1}=0.2A, I_{B2}= -0.2A R_L=125Ω			1.1	μs
Storage Time	t_{stg}				4.0	μs
Fall Time	t_F				0.7	μs

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Note.

hFE1 Classification	R	9 ~ 16
	O	15 ~ 25
	Y	20 ~ 30

Package Mark information.

S AR 13003 YWW Z	R	Pin type (ECB)
	YWW	Y; year code, WW; week code
	Z	hFE1 Classification

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Typical Characteristics

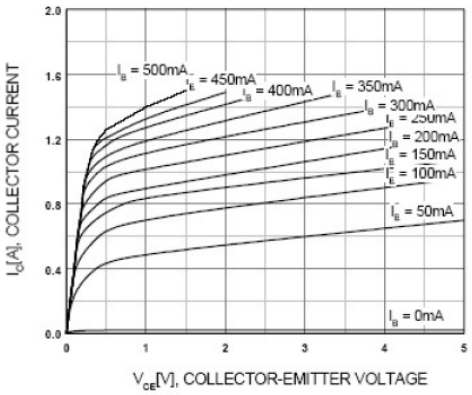


Figure 1. Static Characteristic

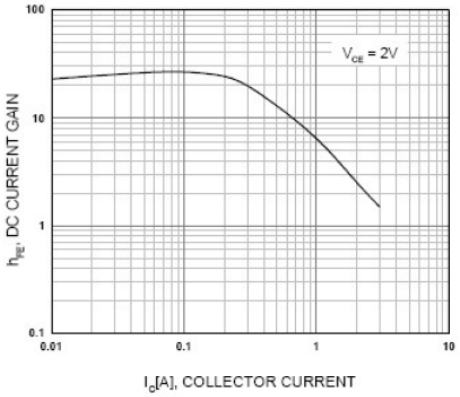


Figure 2. DC current Gain

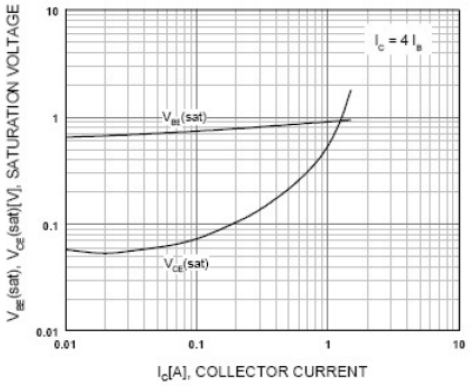


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

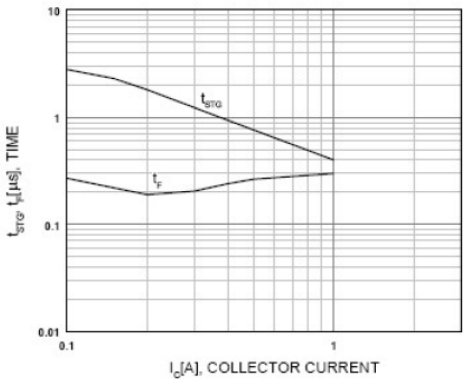
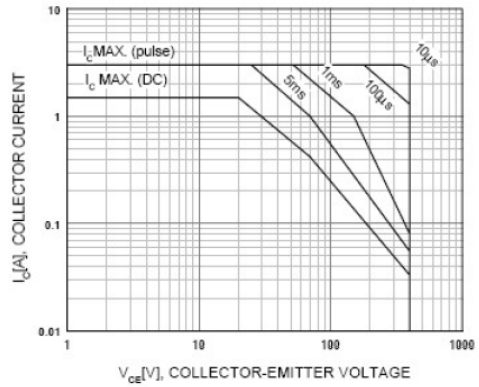
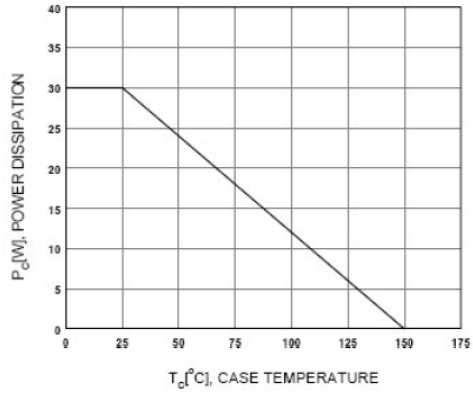


Figure 4. Switching Time

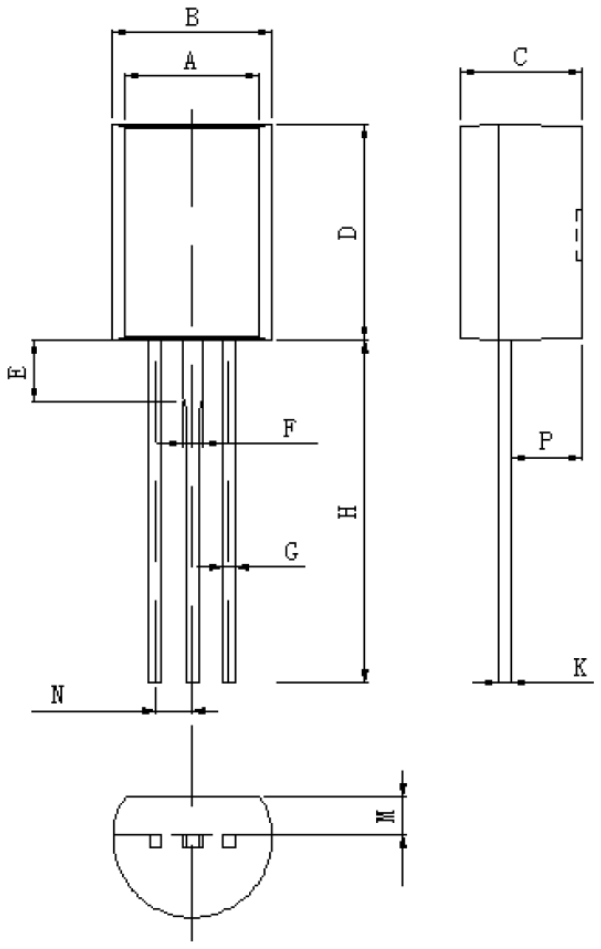




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Package Dimensions

TO-92L



DIM	MILLIMETERS
A	5.8±0.2
B	6.3±0.2
C	4.8±0.2
D	8.6±0.2
E	3.0±0.2
F	1.0±0.2
G	0.5±0.1
H	13.0±0.2
K	0.5±0.1
M	1.5±0.2
N	1.4±0.2
P	2.9±0.3

Dimensions in Millimeters

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