



YOUSHANG SEMICONDUCTOR

设计研发新型功率器件

各类小信号开关

中低压及高压大电流等场效应管

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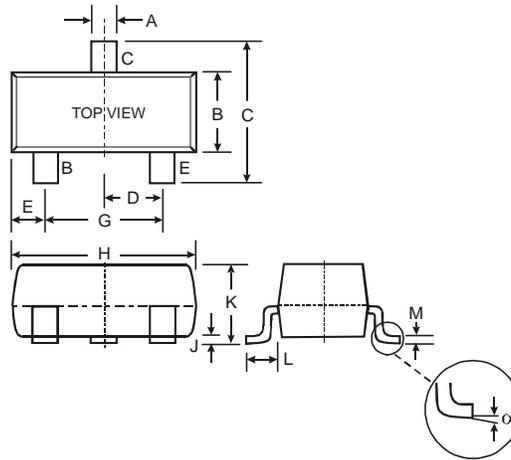
Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available (DDTC)
- Built-In Biasing Resistor, R2 only

Mechanical Data

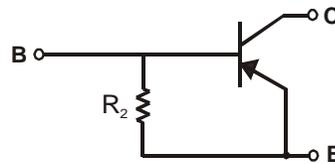
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking: Date Code and Type Code: See Table Below & Page 4
- Ordering Information: See Page 4
- Weight: 0.008 grams (approximate)

P/N	R2 (NOM)	Type Code
NK-DDTA114GCA	10K Ω	P26
NK-DDTA124GCA	22K Ω	P27
NK-DDTA144GCA	47K Ω	P28
NK-DDTA115GCA	100K Ω	P29



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°

All Dimensions in mm



SCHEMATIC DIAGRAM

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C (Max)	-100	mA
Power Dissipation	P_D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating and Storage and Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage		BV _{CBO}	-50	—	—	V	I _C = -50μA
Collector-Emitter Breakdown Voltage		BV _{CEO}	-50	—	—	V	I _C = -1mA
Emitter-Base Breakdown Voltage		BV _{EBO}	5	—	—	V	I _E = -720μA, NK-DDTA114GCA I _E = -330μA, NK-DDTA124GCA I _E = -160μA, NK-DDTA144GCA I _E = -72μA, NK-DDTA115GCA
Collector Cutoff Current		I _{CBO}	—	—	-0.5	μA	V _{CB} = -50V
Emitter Cutoff Current	NK-DDTA114GCA	I _{EBO}	-300	—	-580	μA	V _{EB} = -4V
	NK-DDTA124GCA		-140		-260		
	NK-DDTA144GCA		-65		-130		
	NK-DDTA115GCA		-30		-58		
Collector-Emitter Saturation Voltage		V _{CE(sat)}	—	—	-0.3	V	I _C = -10mA, I _B = -0.5mA
DC Current Transfer Ratio	NK-DDTA114GCA	h _{FE}	30	—	—	—	I _C = -5mA, V _{CE} = -5V
	NK-DDTA124GCA		56				
	NK-DDTA144GCA		68				
	NK-DDTA115GCA		82				
Bleeder Resistor (R ₂) Tolerance		ΔR ₂	-30	—	+30	%	—
Gain-Bandwidth Product*		f _T	—	250	—	MHz	V _{CE} = -10V, I _E = 5mA, f = 100MHz

* Transistor - For Reference Only

Typical Curves – NK-DDTA114GCA

