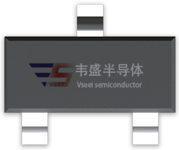
3DK2222A TRANSISTOR (NPN)



1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

- **Epitaxial planar die construction**
- **Complementary PNP Type available(MMBT2907A)**

MAXIMUM RATINGS (T_a=25 ℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Power Dissipation	225	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55to+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 10μA, I_E=0	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA, I_B=0	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=70 V , I_E=0			0.01	μA
Collector cut-off current	I_{CEX}	V_{CE}=60V, $V_{BE(off)}$=3V			0.01	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 3V, I_C=0			0.01	μA
DC current gain	$H_{FE(1)}$	V_{CE}=10V, I_C= 150mA	100		300	
	$H_{FE(2)}$	V_{CE}=10V, I_C= 0.1mA	40			
	$H_{FE(3)}$	V_{CE}=10V, I_C= 500mA	42			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500 mA, I_B= 50mA I_C=150 mA, I_B=15mA			0.6 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=500 mA, I_B= 50mA			1.2	V
Transition frequency	f_T	V_{CE}=20V, I_C= 20mA f=100MHz	300			MHz
Delay time	t_d	V_{CC}=30V, $V_{BE(off)}$=-0.5V I_C=150mA , I_{B1}= 15mA			10	ns
Rise time	t_r				25	ns
Storage time	t_S	V_{CC}=30V, I_C=150mA I_{B1}=-I_{B2}=15mA			225	ns
Fall time	t_f				60	ns