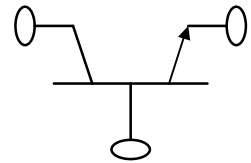


DIE SPECIFICATION

SWITCHING TRANSISTOR NPN SILICON



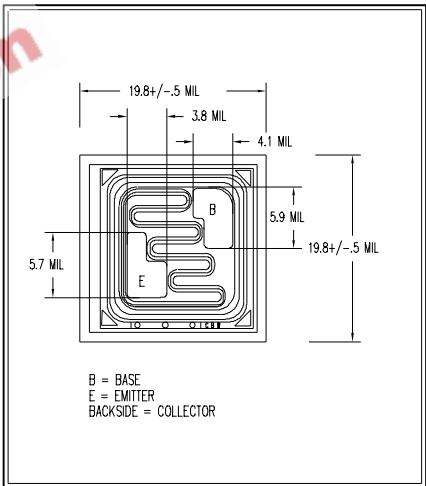
FEATURES:

- ELECTRICAL PERFORMANCE I.A.W. MIL-PRF-19500/255
- AVAILABLE IN WAFER OR CHIP FORM FOR HYBRID APPLICATIONS
- GENERAL PURPOSE-HIGH SPEED SWITCHING APPLICATIONS
- LOW $V_{CE(sat)}$: .3V @ $I_C = 150 \text{ mAdc}$

PHYSICAL DIMENSIONS

Absolute Maximum Ratings:

Symbol	Parameter	Limit	Unit
V _{ceo}	Collector-Emitter Voltage	50	Vdc
V _{cbo}	Collector-Base Voltage	75	Vdc
V _{ebo}	Emitter-Base Voltage	6.0	Vdc
I _c	Collector Current- Continuous	800	mAdc
T _j , T _{stg}	Operating Junction & Storage Temperature Range	-65 to +200	°C



Packaging Options:
W: Wafer (100% probed) U: Wafer (sample probed)
D: Chip (Waffle Pack) B: Chip (Vial)
V: Chip (Waffle Pack, 100% visually inspected) X: Other

Processing Options:
Standard: Capable of JANTXV applications (No Suffix)
Suffix C: Commercial
Suffix S: Capable of S-Level equivalent applications

Metallization Options:
Standard: Al Top / Au Backside (No Dash #)
Dash 1: Al Top / TiPdAg Backside

ORDERING INFORMATION:
PART #: 2N2222A_ _ - _
First Suffix Letter: Packaging Option
Second Suffix Letter: Processing Option
Dash #: Metallization Option

Serotech reserves the right to make changes to any product design, specification, or other information at any time without prior notice.

Electrical Characteristics @ T_j = 25 °C

Symbol	Parameter	Conditions	Min	Max	Unit
OFF CHARACTERISTICS					
V(BR)CBO	Breakdown Voltage, Collector to Base	Bias Cond. D, I _C =10uAdc	75		Vdc
V(BR)EBO	Breakdown Voltage, Emitter to Base	Bias Cond. D, I _E =10uAdc	6		Vdc
V(BR)CEO	Breakdown Voltage, Collector to Emitter	Bias Cond. D, I _C = 10mAdc, pulsed	50		Vdc
ICES	Collector to Emitter Cutoff Current	Bias Cond. D, V _{CE} =50Vdc		50	nAdc
ICBO1	Collector to Base Cutoff Current	Bias Cond. D, V _{CB} =60Vdc		10	nAdc
IEBO	Emitter to Base Cutoff Current	Bias Cond. D, V _{EB} = 4Vdc		10	nAdc
ON CHARACTERISTICS					
hFE1	Forward-Current Transfer Ratio	V _{CE} =10Vdc, I _C =0.1mAdc	50		
hFE2	Forward-Current Transfer Ratio	V _{CE} =10Vdc, I _C =1.0mAdc	75	325	
hFE3	Forward-Current Transfer Ratio	V _{CE} =10Vdc, I _C =10mAdc	100		
hFE4	Forward-Current Transfer Ratio	V _{CE} =10Vdc, I _C =150mAdc, pulsed	100	300	
hFE5	Forward-Current Transfer Ratio	V _{CE} =10Vdc, I _C =500mAdc, pulsed	30		
V _{CE} (sat)1	Collector to Emitter Saturation Voltage	I _C =150mAdc, I _B =15mAdc, pulsed		0.3	Vdc
V _{CE} (sat)2	Collector to Emitter Saturation Voltage	I _C =500mAdc, I _B =50mAdc, pulsed		1	Vdc
V _{BE} (sat)1	Base to Emitter Saturation Voltage	I _C =150mAdc, I _B =15mAdc, pulsed	0.6	1.2	Vdc
V _{BE} (sat)2	Base to Emitter Saturation Voltage	I _C =500mAdc, I _B =50mAdc, pulsed		2	Vdc
SMALL SIGNAL CHARACTERISTICS					
h _{fe}	Short Circuit Forward Current Xfer Ratio	V _{CE} = 10Vdc, I _C =1mAdc, f= 1kHz	50		
/h _{fe} /	Magnitude of Short Circuit Forward Current Transfer Ratio	V _{CE} = 20Vdc, I _C =50mAdc, f=100MHz	2.5		
C _{obo}	Output Capacitance	V _{CB} = 10Vdc, I _E =0, 100kHz< f <1MHz		8	pF
C _{ibo}	Input Capacitance	V _{EB} = 2.0Vdc, I _C =0, 100kHz< f <1MHz		25	pF
SWITCHING CHARACTERISTICS					
t _{on}	Saturated Turn-on Time	As defined in 19500/255 Figure 8		45	nS
t _{off}	Saturated Turn-off Time	As defined in 19500/255 Figure 9		300	nS