NPN 2N3227

SILICON ANNULAR TRANSISTORS

The 2N3227 are silicon NPN silicon annular transistors for low-current, high-speed switching applications.
They are mounted in Jedec TO-18 metal.
Compliance to RoHS

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CBO}	Collector-Base Voltage		40	V
V_{CEO}	Collector-Emitter Voltage		20	V
V_{EBO}	Emitter-Base Voltage		6	V
V_{CES}	Collector-Emitter Voltage		40	V
$I_{C\ (peak)}$	Collector Current		500	mA
P_D	Total Device Dissipation Ambient Temperature	@ T_C = 25°	0.36	Watts
	Derating Factore Above		2.06	mW/°C
P_D	Total Device Dissipation Case Temperature	@ T_C = 25°	1.2	Watts
	Derating Factore Above		6.85	mW/°C
T_J	Junction Temperature		+200	°C
T_{Stg}	Storage Temperature range		-65 to +200	

NPN 2N3227

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
I_{CBO}	Collector cut-off current	I_E = 0 ; V_{CB} = 20V	-	-	0.2	µA
		I_E = 0 ; V_{CB} = 20V T_A = 150°C	-	-	50	
I_{CEX}	Collector cut-off curren	V_{CE} = 20V ; $V_{EB(off)}$ = 3V	-	-	0.2	
I_{BL}	Base cut-off curren	V_{CE} = 20V ; $V_{EB(off)}$ = 3V	-	-	0.5	
BV_{CBO}	Collector-Base Breakdown voltage	I_C =10 µA ; I_B = 0	40	-	-	V
BV_{EBO}	Emitter-Base Breakdown voltage	I_E =10 µA ; I_C = 0	6	-	-	V
BV_{CEO}	Collector-Emitter Breakdown voltage	I_C = 10 mA	20	-	-	V
BV_{CES}	Collector-Emitter voltage	I_C =10 µA ; I_B = 0	40	-	-	V
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage	I_C=10 mA, I_B=1.0 mA	-	-	0.25	V
		I_C=100 m A, I_B=10 mA	-	-	0.45	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage	I_C=10 mA, I_B=1.0 mA	-	-	0.85	V
		I_C=100 m A, I_B=10 mA	-	-	1.4	
h_{FE}	DC Current Gain	V_{CE}=1.0 V, I_C=10 mA	100	-	300	-
		V_{CE}=1.0 V, I_C=10 mA T_A =-55°c	40	-	-	
		V_{CE}=1.0 V, I_C=100 mA	30	-	-	
h_{fe}	Small Signal Current Gain	V_{CE}=10 V, I_C=10 mA f=100MHz	5	-	-	-
t_S	Storage time	I_C = I_{B1} = I_{B2} =10 mA	-	-	13	Ns
T_{off}	Turn-off time	I_C=10 A;I_{B1}= 3 mA; I_{B2} =1.5 mA;V_{CC}=3.0 V	-	-	18	
t_{on}	Turn-on time	I_C=10 A;I_{B1}= 3 mA V_{CC}=3.0 V, $V_{EB(off)}$ = 1.5 V	-	-	12	
C_{ob}	Output Capacitance	V_{CB}=5 V ; I_E=0 , f=140kHz	-	-	4.0	pF
C_{ib}	Input Capacitance	V_{BE}=1 V ; I_C=0 , f=140kHz	-	-	4.0	pF

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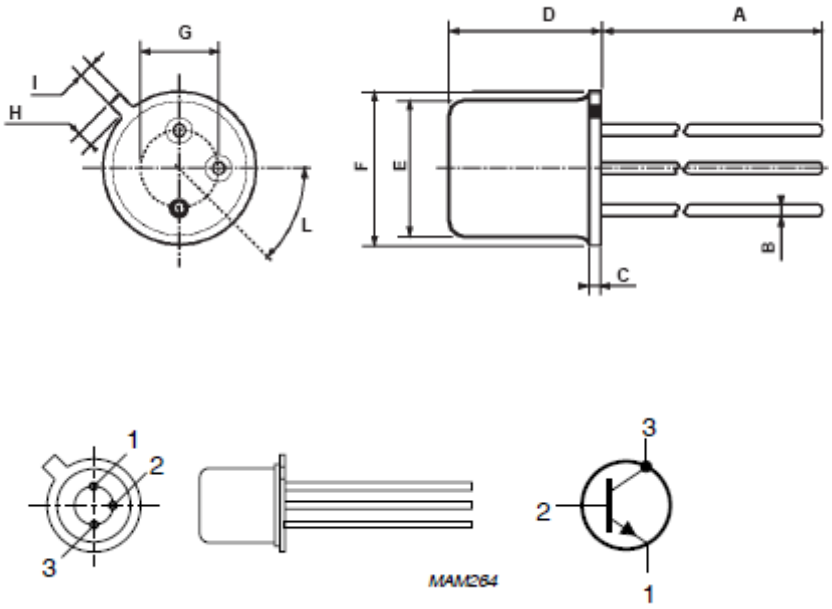
MECHANICAL DATA CASE TO-18

DIMENSIONS (mm)		
	min	max
A	12.7	-
B	-	0.49
C	0.9	-
D	-	5.3
E	-	4.9
F	-	5.8
G	2.54	-
H	-	1.2
I	-	1.16
L	45°	-

Pin 1 :	emitter
Pin 2 :	base
Pin 3 :	Collector
Case :	Collector



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