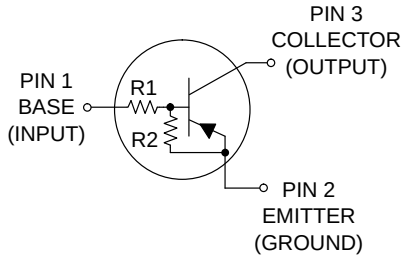


	V_{CEO}	**50**	**Vdc**
Collector Current − Continuous	I_C	100	mAdc
Input Forward Voltage	$V_{IN(fwd)}$	40	Vdc
Input Reverse Voltage	$V_{IN(rev)}$	10	Vdc

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

See detailed ordering, marking, and shipping information in

Table 2. THERMAL CHARACTERISTICS

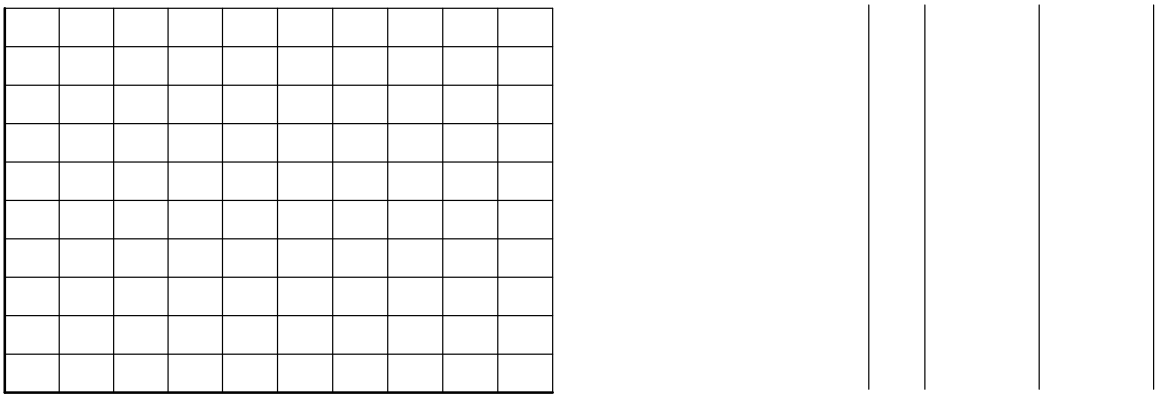
Characteristic			
THERMAL CHARACTERISTICS (SC−59) (MUN2113)			
Total Device Dissipation T_A = 25°C (Note 1) (Note 2) Derate above 25°C (Note 1) (Note 2)			
Thermal Resistance, (Note 1) Junction to Ambient (Note 2)			
Thermal Resistance, (Note 1) Junction to Lead (Note 2)			
Junction and Storage Temperature Range			
THERMAL CHARACTERISTICS (SOT−23) (MMUN2113L)			
Total Device Dissipation T_A = 25°C (Note 1) (Note 2) Derate above 25°C (Note 1) (Note 2)			
Thermal Resistance, (Note 1) Junction to Ambient (Note 2)			
Thermal Resistance, (Note 1) Junction to Lead (Note 2)			
Junction and Storage Temperature Range			
THERMAL CHARACTERISTICS (SC−70/SOT−323) (MUN5113)			
Total Device Dissipation T_A = 25°C (Note 1) (Note 2) Derate above 25°C (Note 1) (Note 2)			
Thermal Resistance, (Note 1) Junction to Ambient (Note 2)			
Thermal Resistance, (Note 1) Junction to Lead (Note 2)			
Junction and Storage Temperature Range			
THERMAL CHARACTERISTICS (SC−75) (DTA144EE)			
Thermal Resistance, (Note 1) Junction to Ambient (Note 2)	$R_{\theta JA}$	600 400	°C/W
Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C
THERMAL CHARACTERISTICS (SOT			

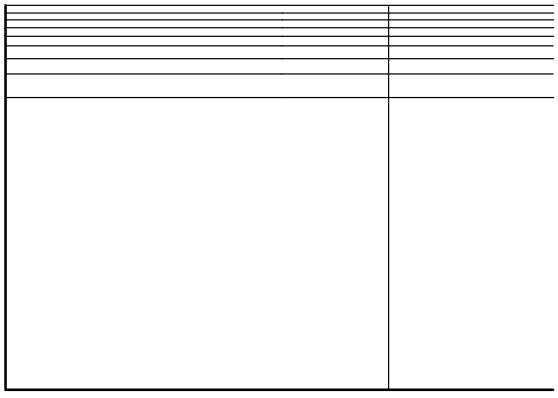
Table 2. THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
THERMAL CHARACTERISTICS (SOT−1123) (NSBA144EF3)			
Total Device Dissipation	P_D		
T_A = 25°C (Note 3)		254	mW
(Note 4)		297	
Derate above 25°C (Note 3)		2.0	mW/°C
(Note 4)		2.4	
Thermal Resistance, (Note 3)	$R_{\theta JA}$	493	°C/W
Junction to Ambient (Note 4)		421	
Thermal Resistance, Junction to Lead (Note 3)			

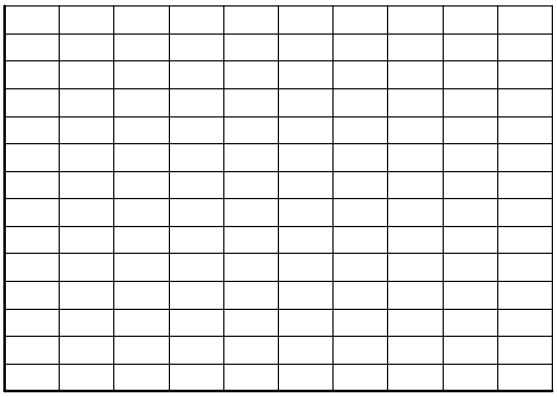
TYPICAL CHARACTERISTICS
MUN2113, MMUN2113L, MUN5113, DTA144EE, DTA144EM3

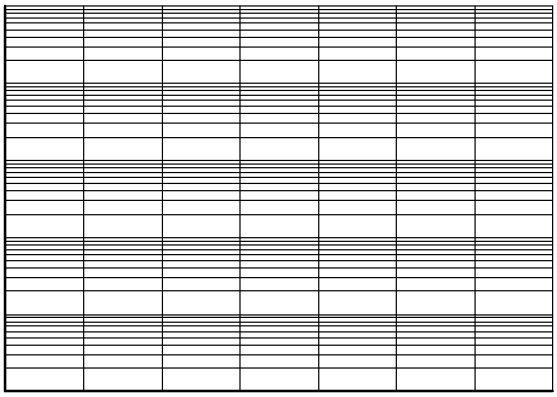
Figure 2. $V_{CE(sat)}$ vs. I_C

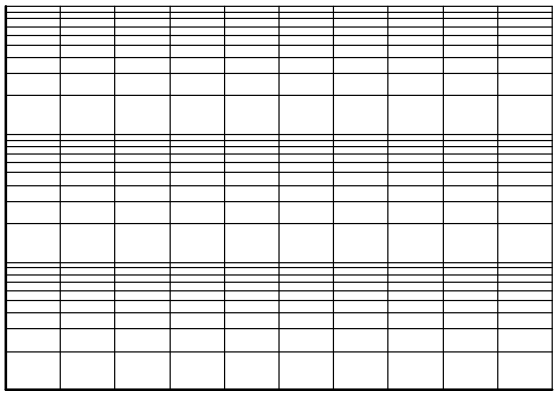


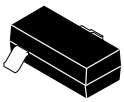


TYPICAL CHARACTERISTICS − NSBA144EF3









SCALE 4:1

SOT 23 (TO 236) 2.90x1.30x1.00 1.90P
CASE 318
ISSUE AU

DATE 14 AUG 2024

SOT 23 (TO 236) 2.90x1.30x1.00 1.90P
CASE 318
ISSUE AU

DATE 14 AUG 2024

STYLE 6:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 7:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 8:
PIN 1. ANODE
2. NO CONNECTION
3. CATHODE

STYLE 9:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 10:
PIN 1. DRAIN
2. SOURCE
3. GATE

STYLE 11:
PIN 1. ANODE
2. CATHODE
3. CATHODE−ANODE

STYLE 12:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 13:
PIN 1. SOURCE
2. DRAIN
3. GATE

STYLE 14:
PIN 1. CATHODE
2. GATE
3. ANODE

STYLE 15:
PIN 1. GATE
2. CATHODE
3. ANODE

STYLE 16:
PIN 1. ANODE
2. CATHODE
3. CATHODE

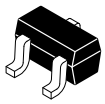
STYLE 17:
PIN 1. NO CONNECTION
2. ANODE
3. CATHODE

STYLE 18:
PIN 1. NO CONNECTION
2. CATHODE
3. ANODE

STYLE 19:
PIN 1. CATHODE
2. ANODE
3. CATHODE−ANODE

STYLE 22:
PIN 1. RETURN
2. OUTPUT
3. INPUT

STYLE 23:
PIN 1. ANODE
2. ANODE
3. CATHODE
3.

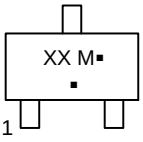


SCALE 4:1

SC−70 (SOT−323)
CASE 419
ISSUE R

DATE 11 OCT 2022

GENERIC
MARKING DIAGRAM



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−

STYLE 1:
CANCELLED

STYLE 2:
PIN 1. ANODE
2. N.C.
3. CATHODE

STYLE 3:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 5:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 6:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 7:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 8:
PIN 1. GATE
2. SOURCE
3. DRAIN

STYLE 9:
PIN 1. ANODE
2. CATHODE
3. CATHODE-ANODE

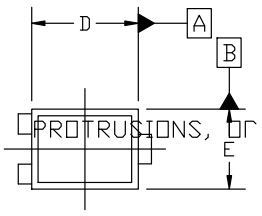
STYLE 10:
PIN 1. CATHODE
2. ANODE
3. ANODE-CATHODE

STYLE 11:
PIN 1. CATHODE
2. CATHODE
3. CATHODE

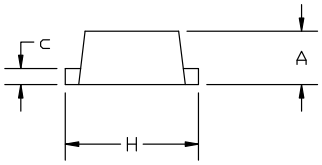
RECOMMEND

SOT−1123 0.80x0.60x0.37, 0.35P
CASE 524AA
ISSUE D

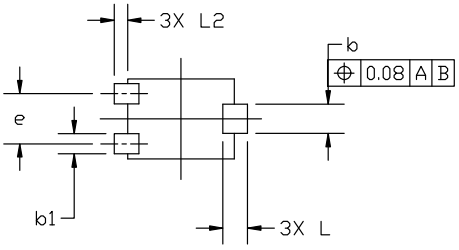
DATE 18 JAN 2024



TOP VIEW



SIDE VIEW



BOTTOM VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THI , ASH,

 < GATE BURRS.

MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.34	0.37	0.40
b	0.15	0.22	0.2
			´5
e	0.35	0.38	0.40
H	0.950	1.000	1.050
L	0.185 REF		
L2	0.05	0.10	0.15

GENERIC
MARKING DIAGRAM*

X = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.

RECOMMENDED
MOUNTING FOOTPRINT

*

STYLE 1:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 2:
PIN 1. ANODE
2. N/C
3. CATHODE

STYLE 3:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 5:
PIN 1. GATE
2. SOURCE
3. DRAIN

SOT−723 1.20x0.80x0.50, 0.40P

GENERIC MARKING