Dual General Purpose Transistor

PNP Dual

This transistor is designed for general purpose amplifier applications. It is housed in the SOT–563 which is designed for low power surface mount applications.

Features

- Lead–Free Solder Plating
- Low V_{CE(SAT)}, <0.5 V
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC–Q101 Qualified and PPAP Capable
- These Devices are Pb–Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	-60	V
Collector-Base Voltage	V _{CBO}	-50	V
Emitter-Base Voltage	V _{EBO}	-6.0	V
Collector Current – Continuous	۱ _C	-100	mAdc

THERMAL CHARACTERISTICS

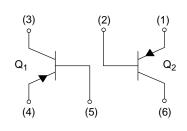
Characteristic (One Junction Heated)	Symbol	Max	Unit
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above $25^{\circ}C$	P _D	357 (Note 1) 2.9 (Note 1)	mW mW/°C
Thermal Resistance, Junction-to-Ambient	R_{\thetaJA}	350 (Note 1)	°C/W
Characteristic (Both Junctions Heated)	Symbol	Max	Unit
Total Device Dissipation $T_A = 25^{\circ}C$	P _D	500 (Note 1)	mW mW/°C
Derate above 25°C		4.0 (Note 1)	
Derate above 25°C Thermal Resistance, Junction-to-Ambient	R _{θJA}	`4.0 ´	°C/W

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. 1. FR-4 @ Minimum Pad.



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MARKING DIAGRAM



3T = Specific Device Code

- M = Month Code
- = Pb–Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 2 of this data sheet.

EMT1DXV6

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Min	Тур	Max	Unit
Collector–Base Breakdown Voltage $(I_C = -50 \ \mu Adc, I_E = 0)$	V _{(BR)CBO}	-60	_	-	Vdc
Collector–Emitter Breakdown Voltage $(I_{C} = -1.0 \text{ mAdc}, I_{B} = 0)$	V _{(BR)CEO}	-50	-	-	Vdc
Emitter–Base Breakdown Voltage ($I_E = -50 \ \mu Adc, I_E = 0$)	V _{(BR)EBO}	-6.0	-	-	Vdc
Collector–Base Cutoff Current ($V_{CB} = -30$ Vdc, $I_E = 0$)	I _{СВО}	-	-	-0.5	nA
Emitter–Base Cutoff Current ($V_{EB} = -5.0 \text{ Vdc}, I_B = 0$)	I _{EBO}	-	-	-0.5	μΑ
Collector–Emitter Saturation Voltage (Note 2) ($I_C = -50$ mAdc, $I_B = -5.0$ mAdc)	V _{CE(sat)}	-	-	-0.5	Vdc
DC Current Gain (Note 2) (V _{CE} = -6.0 Vdc, I _C = -1.0 mAdc)	h _{FE}	120	-	560	-
Transition Frequency ($V_{CE} = -12 \text{ Vdc}, I_C = -2.0 \text{ mAdc}, f = 30 \text{ MHz}$)	f _T	_	140	_	MHz
Output Capacitance ($V_{CB} = -12 \text{ Vdc}, I_E = 0 \text{ Adc}, f = 1 \text{ MHz}$)	C _{OB}	-	3.5	-	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions. 2. Pulse Test: Pulse Width \leq 300 µs, D.C. \leq 2%.

ORDERING INFORMATION

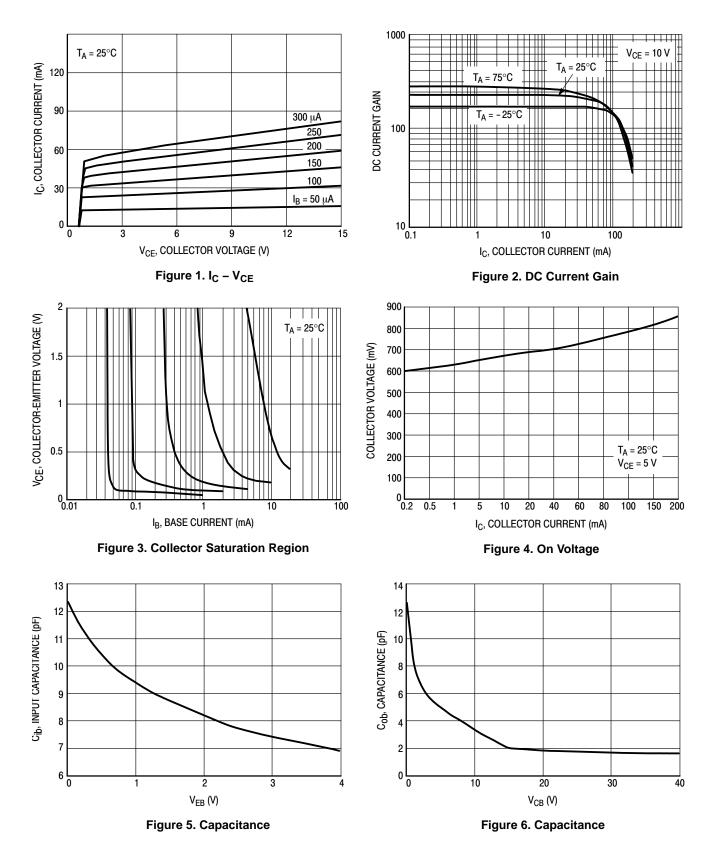
Device	Package	Shipping [†]
EMT1DXV6T1G	SOT–563 (Pb–Free)	4000 / Tape & Reel
NSVEMT1DXV6T1G*	SOT–563 (Pb–Free)	4000 / Tape & Reel
EMT1DXV6T5G	SOT–563 (Pb–Free)	8000 / Tape & Reel
NSVEMT1DXV6T5G*	SOT–563 (Pb–Free)	8000 / Tape & Reel

+For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.
*NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC–Q101 Qualified and PPAP

Capable.

EMT1DXV6

TYPICAL CHARACTERISTICS



6Х

(

MILLIMETERS

NDM.

0.55

0.22

0.13

1.60

1.20

0.50 BSC

0.20

1.60

MAX.

0.60

0.27

0.18

1.70

1.30

0.30

1.70

SIDE VIEW

MIN.

0.50

0.17

0.08

1.50

1.10

0.10

1.50

DIM

Α

b

С

D E

e L

 H_E



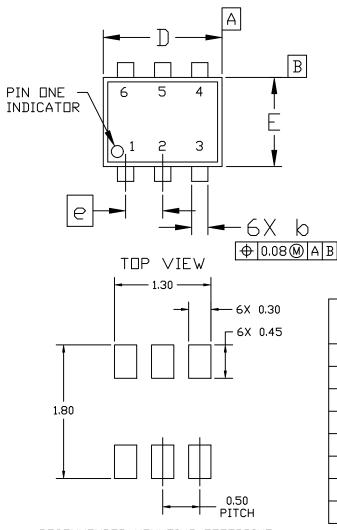


SOT-563, 6 LEAD CASE 463A ISSUE H

DATE 26 JAN 2021

ALE 4:1

- NDTES: 1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
- 1. DIMENSIONING AND TOLERANCING PER A 2. CONTROLLING DIMENSION: MILLIMETERS
- 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS DF BASE MATERIAL.



RECOMMENDED MOUNTING FOOTPRINT* * For additional information on our Pb-Free strategy and soldering details, please download the DN Semiconductor Soldering and Mounting Techniques Reference Manual, SDLDERRM/D.

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STYLE 1:	STYLE 2:	STYLE 3:
PIN 1. EMITTER 1	PIN 1. EMITTER 1	PIN 1. CATHIDE 1
2. BASE 1	2. EMITTER 2	2. CATHIDE 1
3. COLLECTOR 2	3. BASE 2	3. ANUDE/ANUDE 2
4. EMITTER 2	4. COLLECTOR 2	4. CATHIDE 2
5. BASE 2	5. BASE 1	5. CATHIDE 2
6. COLLECTOR 1	6. COLLECTOR 1	6. ANUDE/ANUDE 1
STYLE 4:	STYLE 5:	STYLE 6:
PIN 1. COLLECTOR	PIN 1. CATHEDE	PIN 1. CATHODE
2. COLLECTOR	2. CATHEDE	2. ANODE
3. BASE	3. ANEDE	3. CATHODE
4. EMITTER	4. ANEDE	4. CATHODE
5. COLLECTOR	5. CATHEDE	5. CATHODE
6. COLLECTOR	6. CATHEDE	6. CATHODE
STYLE 7:	STYLE 8:	STYLE 9:
PIN 1. CATHODE	PIN 1. DRAIN	PIN 1. SDURCE 1
2. ANODE	2. DRAIN	2. GATE 1
3. CATHODE	3. GATE	3. DRAIN 2
4. CATHODE	4. SDURCE	4. SDURCE 2
5. ANODE	5. DRAIN	5. GATE 2
6. CATHODE	6. DRAIN	6. DRAIN 1
STYLE 10: PIN 1. CATHODE 1 2. N/C 3. CATHODE 2 4. ANODE 2 5. N/C 6. ANODE 1	STYLE 11: PIN 1. EMITTER 2 2. BASE 2 3. COLLECTOR 1 4. EMITTER 1 5. BASE 1 6. COLLECTOR 2	

6. COLLECTOR 2

DATE 26 JAN 2021

GENERIC **MARKING DIAGRAM***



XX = Specific Device Code

M = Month Code

. = Pb-Free Package

*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.

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DESCRIPTION:	SOT-563, 6 LEAD PA		PAGE 2 OF 2	

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4. ANDDE 2 5. N/C 6. ANDDE 1

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