

NTS4173P

Power MOSFET

-30 V, -1.3 A, Single P-Channel, SC-70

Features

- -30 V BV_{DS} , Low $R_{DS(on)}$ in SC-70 Package
- Low Threshold Voltage
- Fast Switching Speed
- This is a Halide-Free Device
- This is a Pb-Free Device

Applications

- Load Switch
- Low Current Inverter and DC-DC Converters
- Power Switch for Printers, Communication Equipment

MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-to-Source Voltage		V_{DSS}	-30	V
Gate-to-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current (Note 1)	Steady State	$T_A = 25^\circ\text{C}$	-1.2	A
			$T_A = 85^\circ\text{C}$	
	$t \leq 5$ s	$T_A = 25^\circ\text{C}$	-1.3	
Power Dissipation (Note 1)	Steady State	$T_A = 25^\circ\text{C}$	0.29	W
	$t \leq 5$ s		0.35	
Pulsed Drain Current	$t_p = 10 \mu\text{s}$	I_{DM}	-5.0	A
Operating Junction and Storage Temperature		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$
Source Current (Body Diode)		I_S	-1.0	A
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)		T_L	260	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL RESISTANCE RATINGS

Parameter	Symbol	Max	Unit
Junction-to-Ambient - Steady State (Note 1)	$R_{\theta JA}$	425	$^\circ\text{C}/\text{W}$
Junction-to-Ambient - $t \leq 5$ s (Note 1)	$R_{\theta JA}$	360	

1. Surface-mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 in sq [2 oz] including traces)

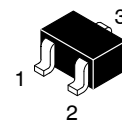
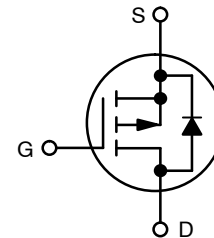


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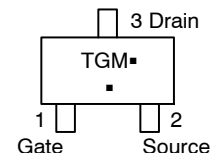
$V_{(BR)DSS}$	$R_{DS(on)}$ MAX	I_D MAX
-30 V	150 m Ω @ -10 V	-1.2 A
	200 m Ω @ -4.5 V	-1.0 A
	280 m Ω @ -2.5 V	-0.9 A

SC-70/SOT-323 (3 LEADS)



SC-70/SOT-323
CASE 419
STYLE 8

MARKING DIAGRAM/ PIN ASSIGNMENT



TG = Specific Device Code
M = Date Code*
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
NTS4173PT1G	SC-70 (Pb-Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

* Date code orientation may vary depending upon manufacturing location

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TYPICAL PERFORMANCE CURVES

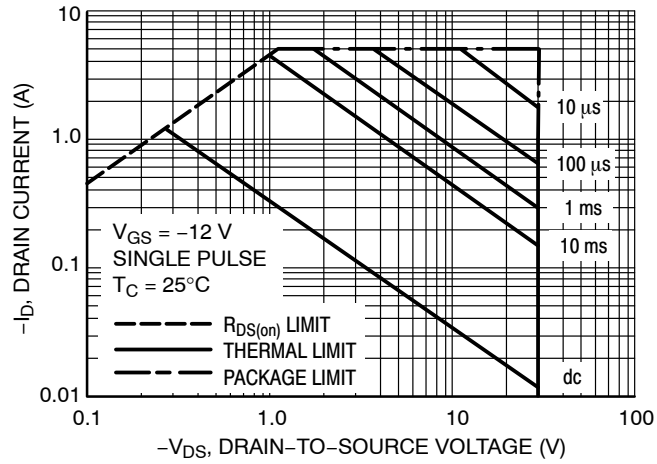


Figure 13. Maximum Rated Forward Biased Safe Operating Area

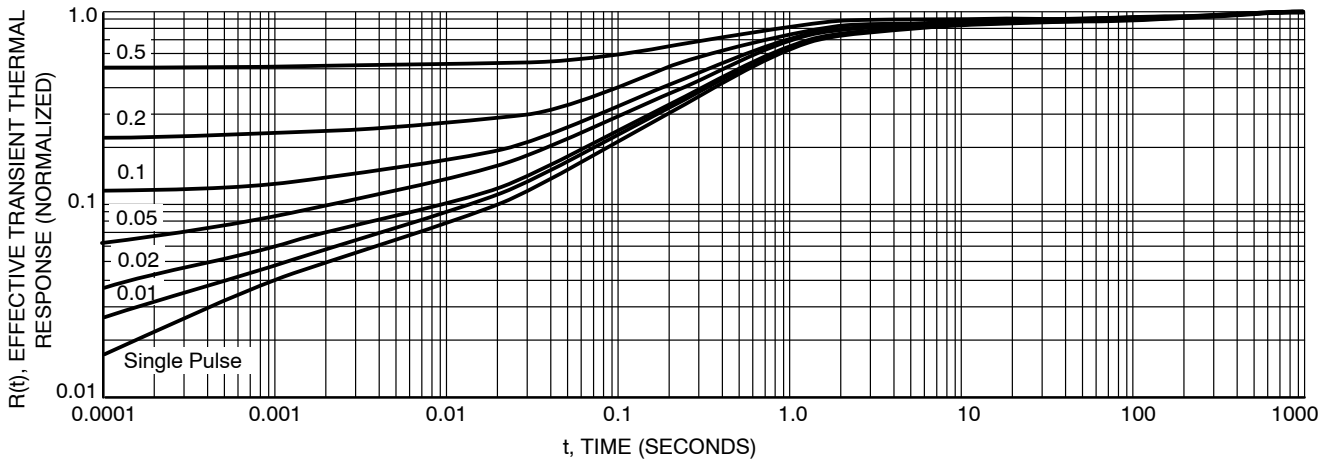
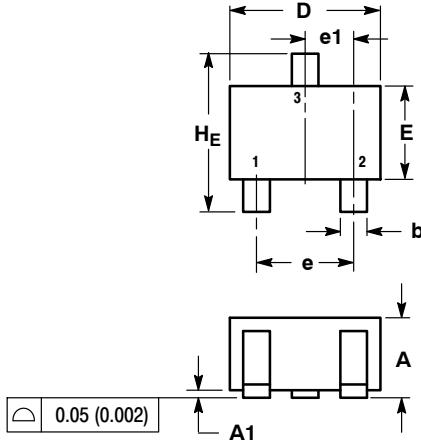


Figure 14. FET Thermal Response

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PACKAGE DIMENSIONS

SC-70 (SOT-323)
CASE 419-04
ISSUE M

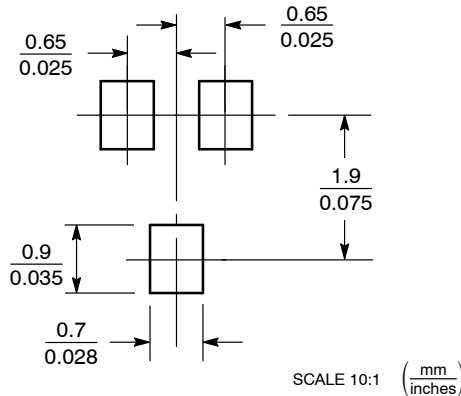


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
HE	2.00	2.10	2.40	0.079	0.083	0.095

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

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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