

Thermal Characteristics

Package	I_D (continuous) [†]	I_D (pulsed)	Power Dissipation @ $T_A = 25^\circ\text{C}$	I_{DR} [†]	I_{DRM}
TO-243AA	230mA	500mA	1.6W [‡]	230mA	500mA

Notes:

- † I_D (continuous) is limited by max rated T_J
 ‡ Mounted on FR4 board, 25mm x 25mm x 1.57mm.

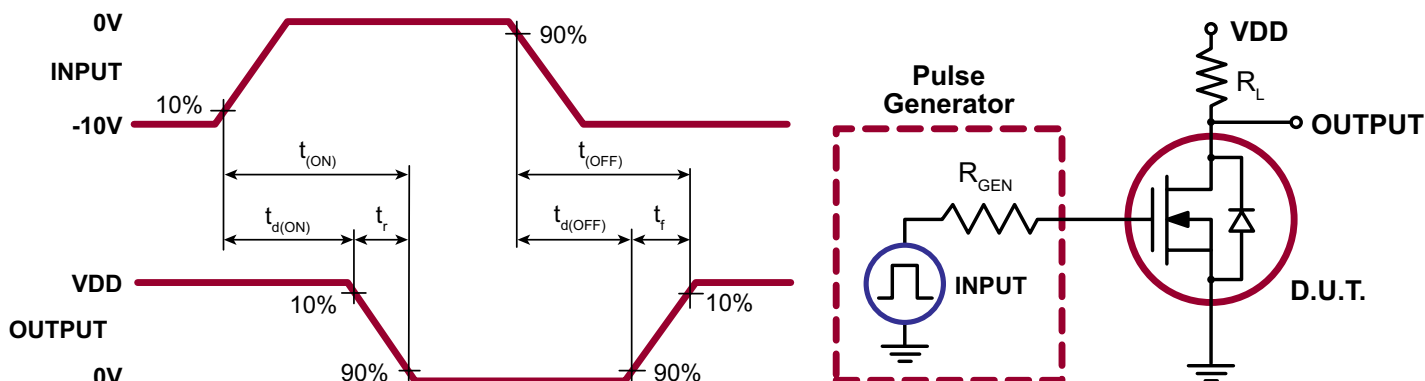
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Sym	Parameter	Min	Typ	Max	Units	Conditions
BV_{DSS}	Drain-to-source breakdown voltage	350	-	-	V	$V_{GS} = -5.0V, I_D = 1.0\mu A$
$V_{GS(OFF)}$	Gate-to-source off voltage	-1.5	-	-3.5	V	$V_{DS} = 15V, I_D = 10\mu A$
$\Delta V_{GS(OFF)}$	Change in $V_{GS(OFF)}$ with temperature	-	-	-4.5	mV/°C	$V_{DS} = 15V, I_D = 10\mu A$
I_{GSS}	Gate body leakage current	-	-	100	nA	$V_{GS} = \pm 20V, V_{DS} = 0V$
$I_{D(OFF)}$	Drain-to-source leakage current	-	-	1.0	μA	$V_{DS} = \text{Max rating}, V_{GS} = -5.0V$
		-	-	1.0	mA	$V_{DS} = 0.8 \text{ Max Rating}, V_{GS} = -5.0V, T_A = 125^\circ\text{C}$
I_{DSS}	Saturated drain-to-source current	200	-	-	mA	$V_{GS} = 0V, V_{DS} = 15V$
$R_{DS(ON)}$	Static drain-to-source on-state resistance	-	-	10	Ω	$V_{GS} = 0V, I_D = 150mA$
$\Delta R_{DS(ON)}$	Change in $R_{DS(ON)}$ with temperature	-	-	1.1	%/°C	$V_{GS} = 0V, I_D = 150mA$
G_{FS}	Forward transconductance	200	-	-	mmho	$V_{DS} = 10V, I_D = 100mA$
C_{ISS}	Input capacitance	-	-	360	pF	$V_{GS} = -5.0V, V_{DS} = 25V, f = 1.0MHz$
C_{OSS}	Common source output capacitance	-	-	40		
C_{RSS}	Reverse transfer capacitance	-	-	10		
$t_{d(ON)}$	Turn-on delay time	-	-	15	ns	$V_{DD} = 25V, I_D = 150mA, R_{GEN} = 25\Omega, V_{GS} = 0V \text{ to } -10V$
t_r	Rise time	-	-	20		
$t_{d(OFF)}$	Turn-off delay time	-	-	20		
t_f	Fall time	-	-	30		
V_{SD}	Diode forward voltage drop	-	-	1.8	V	$V_{GS} = -5.0V, I_{SD} = 150mA$
t_{rr}	Reverse recovery time	-	800	-	ns	$V_{GS} = -5.0V, I_{SD} = 150mA$

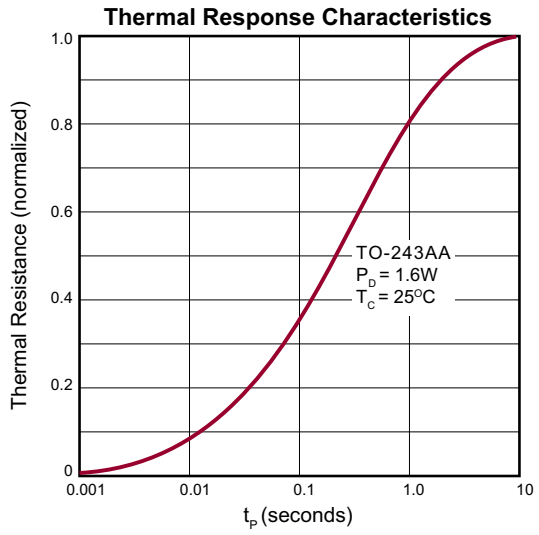
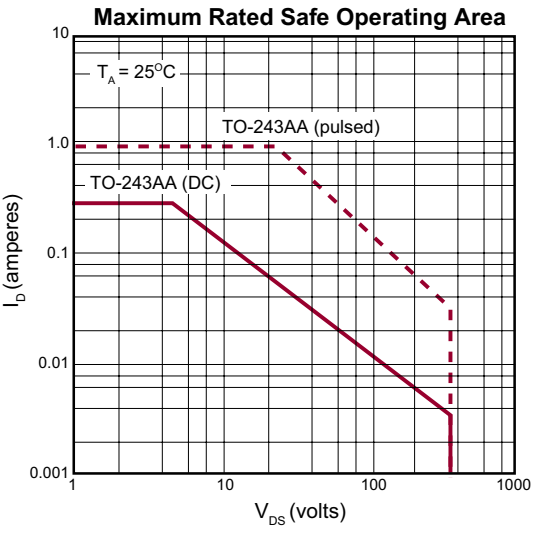
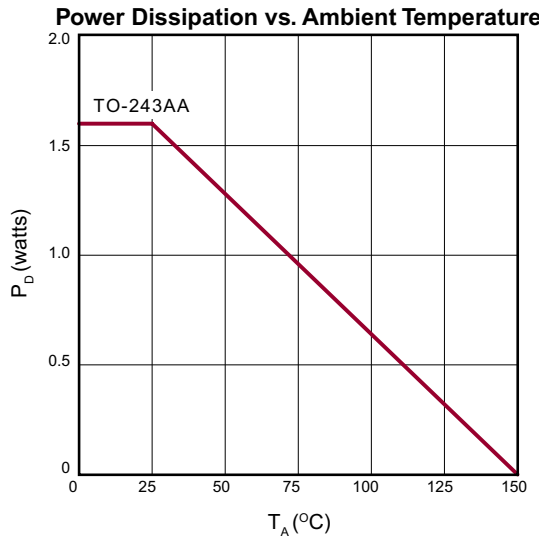
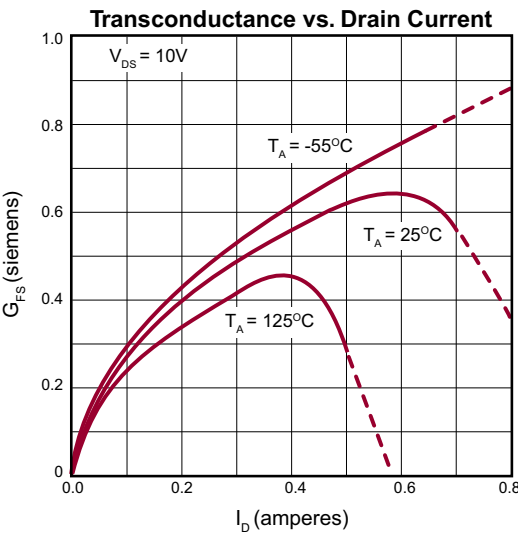
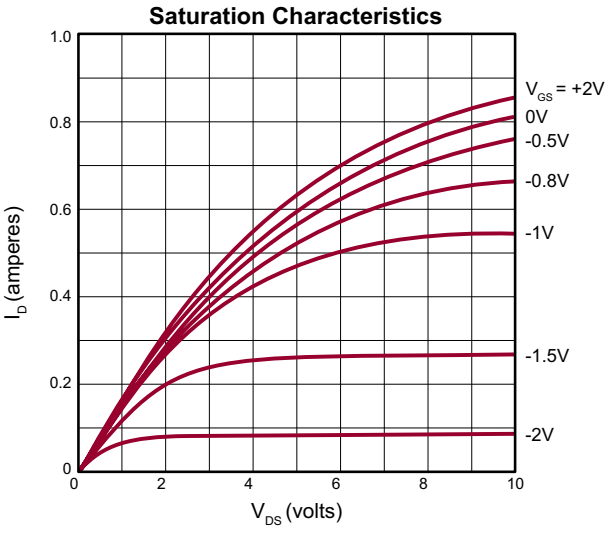
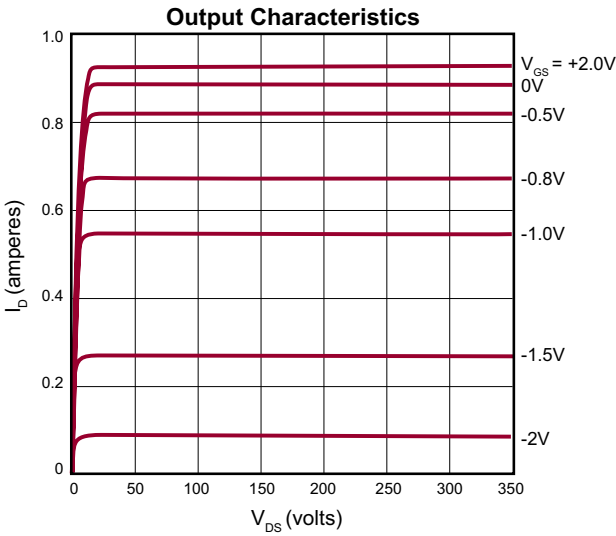
Notes:

- All D.C. parameters 100% tested at 25°C unless otherwise stated. (Pulse test: 300 μs pulse, 2% duty cycle.)
- All A.C. parameters sample tested.

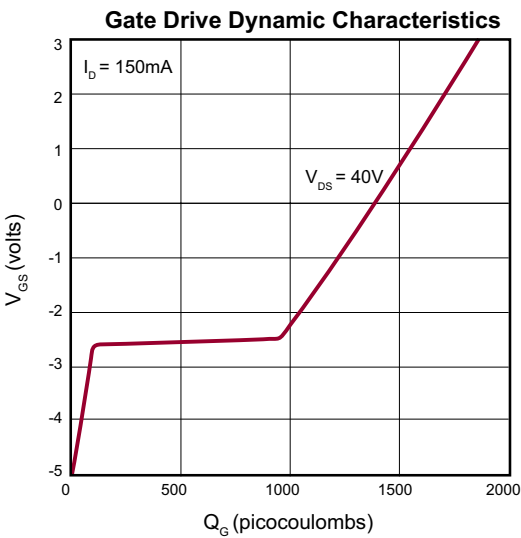
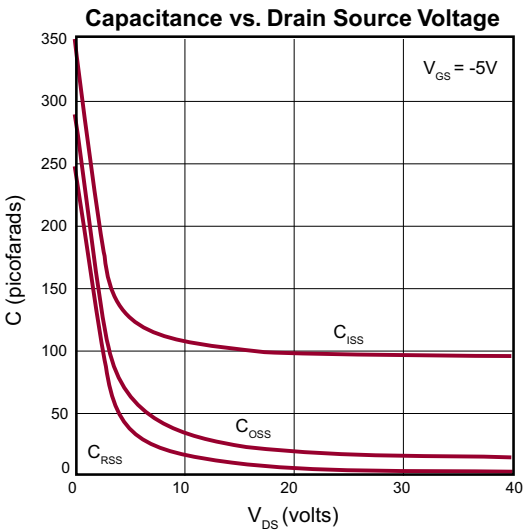
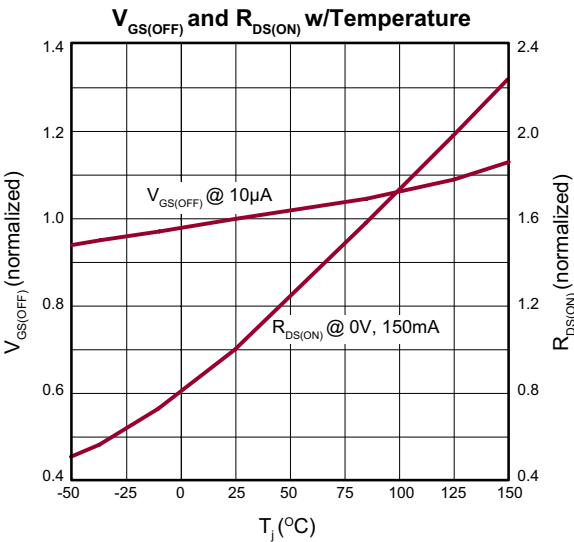
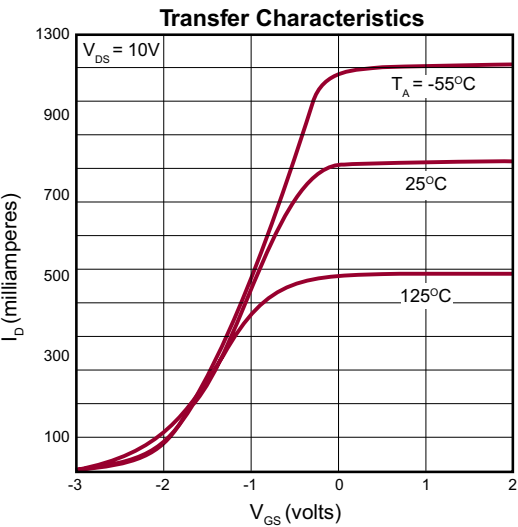
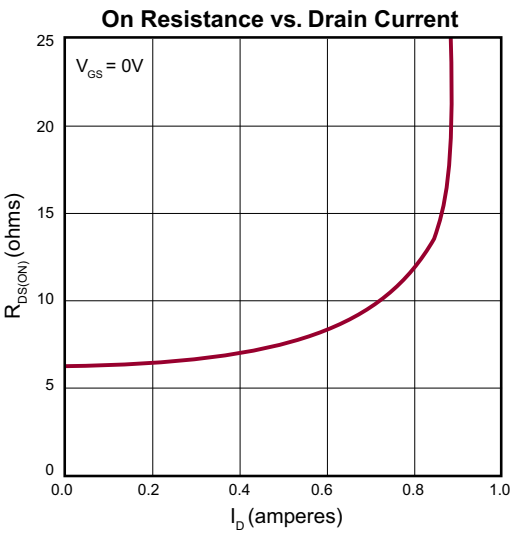
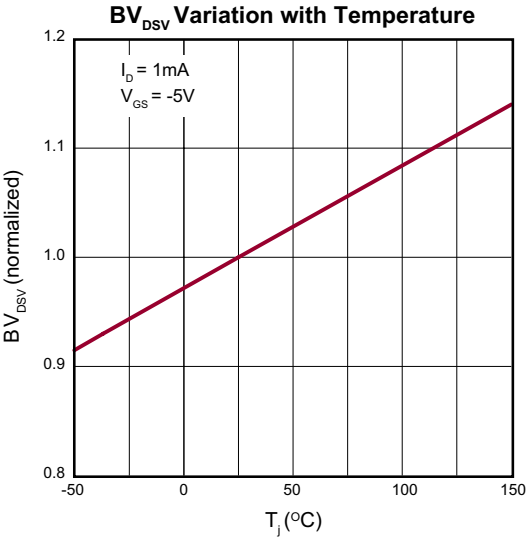
Switching Waveforms and Test Circuit



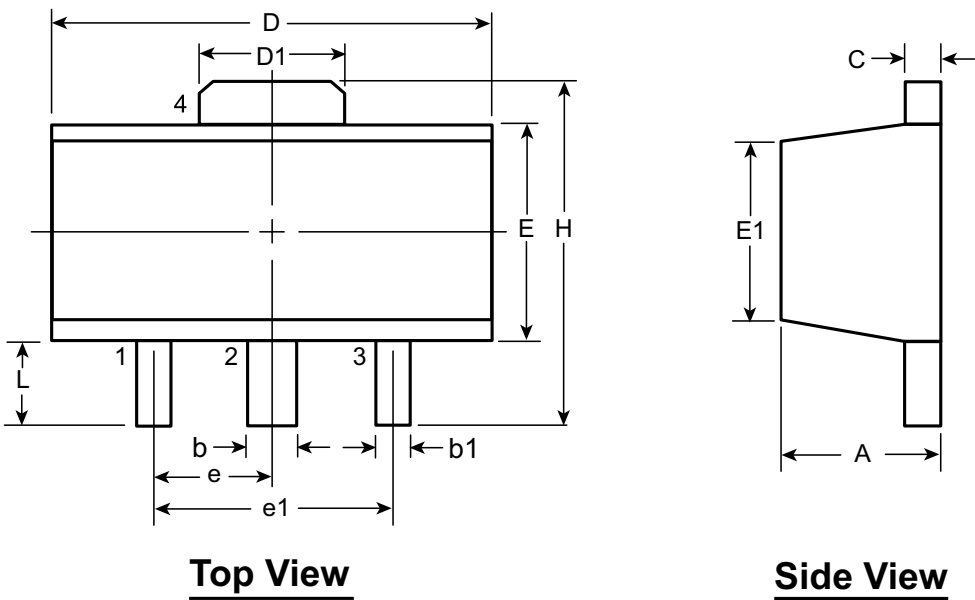
Typical Performance Curves



Typical Performance Curves (cont.)



3-Lead TO-243AA (SOT-89) Package Outline (N8)



Symbol		A	b	b1	C	D	D1	E	E1	e	e1	H	L
Dimensions (mm)	MIN	1.40	0.44	0.36	0.35	4.40	1.62	2.29	2.00†	1.50 BSC	3.00 BSC	3.94	0.73†
	NOM	-	-	-	-	-	-	-	-			-	-
	MAX	1.60	0.56	0.48	0.44	4.60	1.83	2.60	2.29			4.25	1.20

JEDEC Registration TO-243, Variation AA, Issue C, July 1986.

† This dimension differs from the JEDEC drawing

Drawings not to scale.

Supertex Doc. #: DSPD-3TO243AAN8, Version F111010.

(The package drawing(s) in this data sheet may not reflect the most current specifications. For the latest package outline information go to <http://www.supertex.com/packaging.html>.)

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