Thermal Characteristics

Package	Ι _D (continuous) [†]	l _D (pulsed)	Power Dissipation @T _A = 25°C	l _{DR} †	DRM
TO-236AB (SOT-23)	110mA	0.8A	0.36W	110mA	0.8A
TO-243AA (SOT-89)	230mA	1.3A	1.6W [‡]	230mA	1.3A

Notes:

- † I_{D} (continuous) is limited by max rated T_{i} .
- # Mounted on FR5 Board, 25mm x 25mm x 1.57mm.

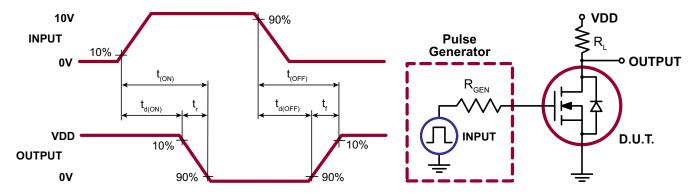
Electrical Characteristics (T_A = 25°C unless otherwise specified)

Sym	Parameter	Min	Тур	Max	Units	Conditions		
BV _{DSS}	Drain-to-source breakdown voltage	350	-	-	V	$V_{GS} = 0V, I_{D} = 100 \mu A$		
V _{GS(th)}	Gate threshold voltage	0.6	-	2.0	V	$V_{GS} = V_{DS}$, $I_D = 1.0 \text{mA}$		
$\Delta V_{GS(th)}$	Change in V _{GS(th)} with temperature	-	-	-4.5	mV/°C	$V_{GS} = V_{DS}$, $I_D = 1.0 \text{mA}$		
I _{GSS}	Gate body leakage	-	-	100	nA	$V_{GS} = \pm 20V, V_{DS} = 0V$		
			-	1.0		V _{GS} = 0V, V _{DS} = 100V		
ı	Zero gate voltage drain current	-	-	10	μA	$V_{GS} = 0V$, $V_{DS} = Max$ Rating		
DSS	Zoro gato voltago aram carront	-	-	1.0	mA	$V_{DS} = 0.8$ Max Rating, $V_{GS} = 0V$, $T_{A} = 125$ °C		
	On state design surrent	300	-	-	A	V _{GS} = 4.5V, V _{DS} = 25V		
I _{D(ON)}	On-state drain current	750	-	-	mA	V _{GS} = 10V, V _{DS} = 25V		
		-	-	15		$V_{GS} = 3.0V, I_{D} = 20mA$		
R _{DS(ON)}	Static drain-to-source on-state resistance		-	15	Ω	V _{GS} = 4.5V, I _D = 150mA		
		-	-	15		V _{GS} = 10V, I _D = 200mA		
$\Delta R_{DS(ON)}$	Change in R _{DS(ON)} with temperature		-	1.0	%/°C	$V_{GS} = 4.5V, I_{D} = 150mA$		
G_{FS}	Forward transductance	125	-	-	mmho	$V_{DS} = 25V, I_{D} = 200mA$		
C _{ISS}	Input capacitance	-	-	110		V _{GS} = 0V,		
C _{oss}	Common source output capacitance	-	-	60	pF	V _{DS} = 25V, f = 1.0MHz		
C _{RSS}	Reverse transfer capacitance	-	-	22		f = 1.0MHz		
t _{d(ON)}	Turn-on delay time	-	-	20				
t _r	Rise time	-	-	15	no	V _{DD} = 25V,		
t _{d(OFF)}	Turn-off delay time		-	25	ns	$I_D = 150 \text{mA},$ $R_{GEN} = 25\Omega$		
t _f	Fall time	-	-	25		OLIV		
V _{SD}	Diode forward voltage drop	-	-	1.8	V	V _{GS} = 0V, I _{SD} = 200mA		
t _{rr}	Reverse recovery time	-	800	-	ns	V _{GS} = 0V, I _{SD} = 200mA		

Notes:

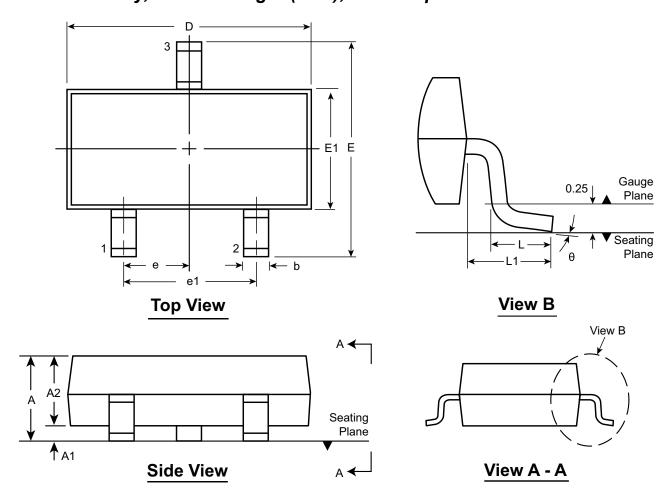
- All D.C. parameters 100% tested at 25°C unless otherwise stated. (Pulse test: 300µs pulse, 2% duty cycle.)
 All A.C. parameters sample tested.

Switching Waveforms and Test Circuit



3-Lead TO-236AB (SOT-23) Package Outline (K1)

2.90x1.30mm body, 1.12mm height (max), 1.90mm pitch



Symb	ol	Α	A1	A2	b	D	E	E1	е	e1	L	L1	θ
Dimension (mm)	MIN	0.89	0.01	0.88	0.30	2.80	2.10	1.20	0.05	1.90 BSC	0.20†	0.54	0 °
	NOM	-	-	0.95	-	2.90	-	1.30	0.95 BSC		0.50	0.54 REF	-
	MAX	1.12	0.10	1.02	0.50	3.04	2.64	1.40	200			0.60	1 _1

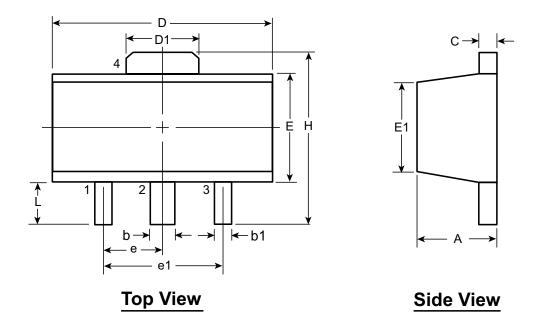
JEDEC Registration TO-236, Variation AB, Issue H, Jan. 1999.

† This dimension differs from the JEDEC drawing.

Drawings not to scale.

Supertex Doc.#: DSPD-3TO236ABK1, Version C041309.

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



Symbo	ol	Α	b	b1	С	D	D1	E	E1	е	e1	Н	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		230	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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