

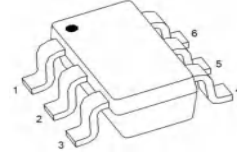
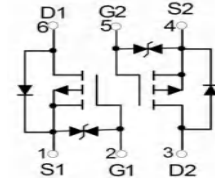


## BSS84KDW

### Features

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed

Marking Code: K84



SOT-363

### Maximum Ratings @ $T_A = 25\text{ C}$ unless otherwise specified

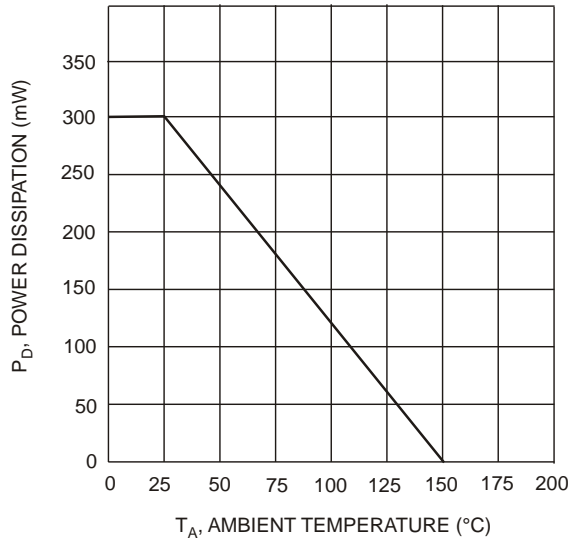
Characteristic	Symbol	Value	Units
Drain-Source Voltage	$V_{DSS}$	-50	V
Drain-Gate Voltage (Note 1)	$V_{DGR}$	-50	V
Gate-Source Voltage	$V_{GSS}$	20	V
Drain Current (Note 2)	$I_D$	-130	mA
Total Power Dissipation (Note 2)	$P_d$	300	mW
Thermal Resistance, Junction to Ambient	$R_{JA}$	417	C/W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150	C

Note: 1.  $R_{GS} = 20K$  .



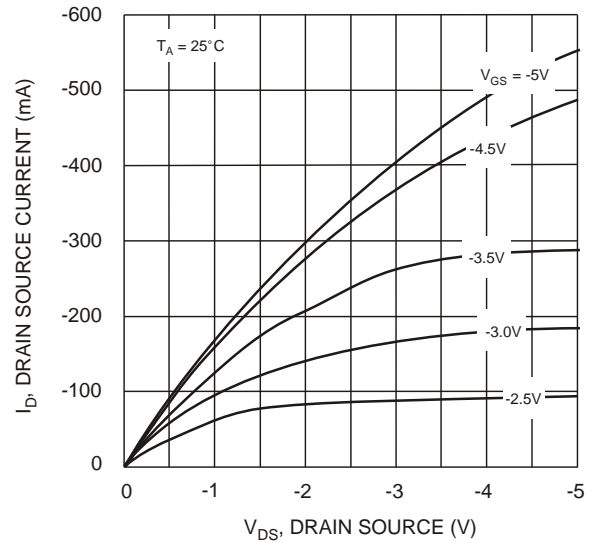
## Electrical Characteristics @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 4)</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	-50	-75		V	$V_{GS} = 0V, I_D = -250\text{ A}$
Zero Gate Voltage Drain Current	$I_{DSS}$			-15	$\mu A$	$V_{DS} = -50V, V_{GS} = 0V, T_J = 25\text{ C}$
				-60	$\mu A$	$V_{DS} = -50V, V_{GS} = 0V, T_J = 125\text{ C}$
Gate-Body Leakage	$I_{GSS}$			10	$\mu A$	$V_{GS} = 20V, V_{DS} = 0V$
<b>ON CHARACTERISTICS (Note 4)</b>						
Gate Threshold Voltage	$V_{GS(th)}$	-0.8	-1.6	-2.0	V	$V_{DS} = V_{GS}, I_D = -1mA$
Static Drain-Source On-Resistance	$R_{DS(ON)}$		6	10		$V_{GS} = -5V, I_D = -0.100A$
Forward Transconductance	$g_{FS}$	0.05			S	$V_{DS} = -25V, I_D = -0.1A$
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	$C_{iss}$			45	pF	$V_{DS} = -25V, V_{GS} = 0V$ $f = 1.0MHz$
Output Capacitance	$C_{oss}$			25	pF	
Reverse Transfer Capacitance	$C_{rss}$			12	pF	
<b>SWITCHING CHARACTERISTICS</b>						
Turn-On Delay Time	$t_{D(ON)}$		10		ns	$V_{DD} = -30V, I_D = -0.27A,$ $R_{GEN} = 50\ \Omega, V_{GS} = -10V$
Turn-Off Delay Time	$t_{D(OFF)}$		18		ns	



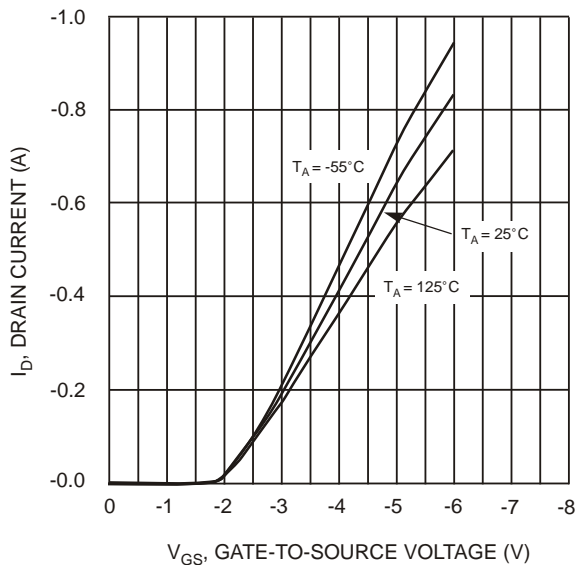
$T_A$ , AMBIENT TEMPERATURE ( $^{\circ}\text{C}$ )

Fig. 1, Max Power Dissipation vs Ambient Temperature



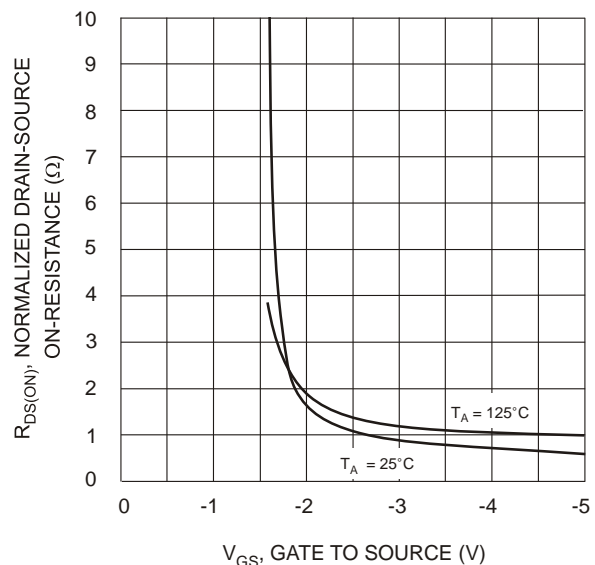
$V_{DS}$ , DRAIN SOURCE (V)

Fig. 2, Drain Source Current vs. Drain Source Voltage



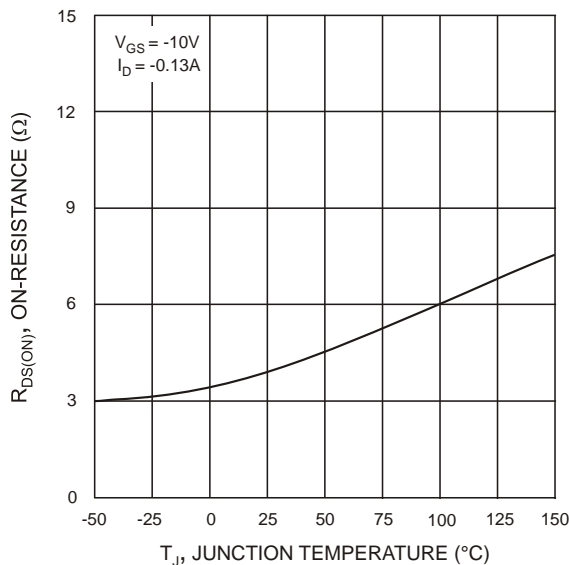
$V_{GS}$ , GATE-TO-SOURCE VOLTAGE (V)

Fig. 3, Drain Current vs. Gate Source Voltage



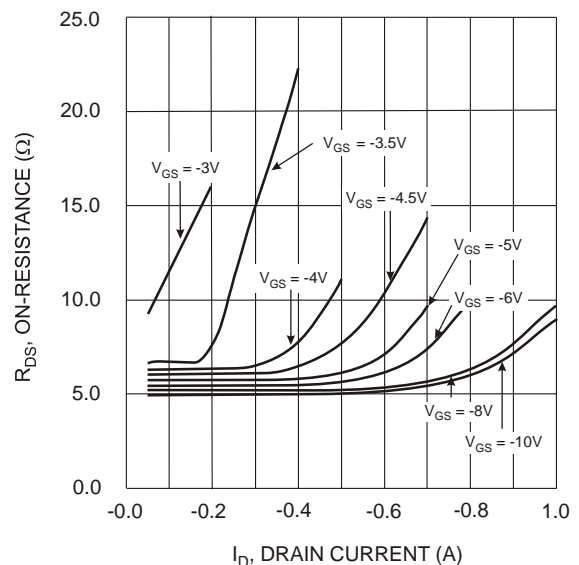
$V_{GS}$ , GATE TO SOURCE (V)

Fig. 4, On Resistance vs. Gate Source Voltage



$T_J$ , JUNCTION TEMPERATURE ( $^{\circ}\text{C}$ )

Fig. 5, On-Resistance vs. Junction Temperature

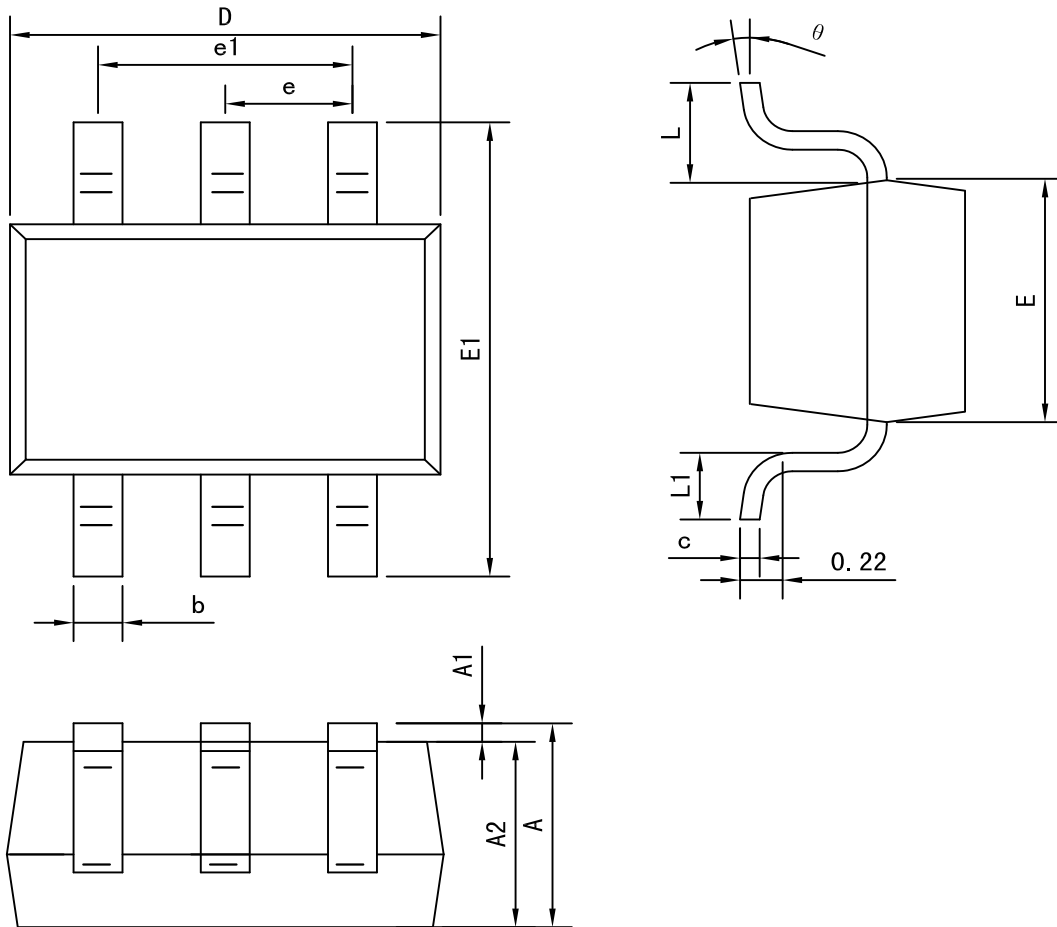


$I_D$ , DRAIN CURRENT (A)

Fig. 6, On-Resistance vs. Drain Current



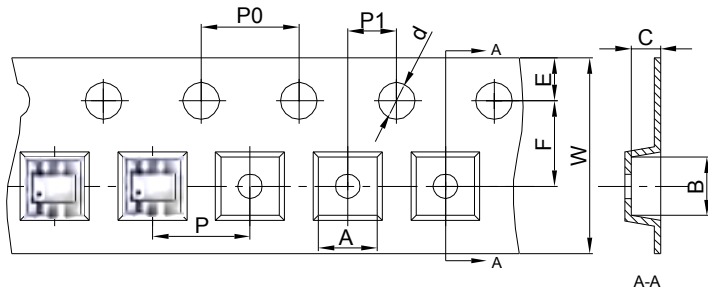
## SOT-363 Package outline dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
$\theta$	0°	8°



### SOT-363 Embossed Carrier Tape



#### Packaging Description:

SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### SOT-363 Tape Leader and Trailer

