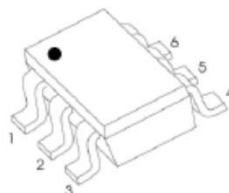


Features

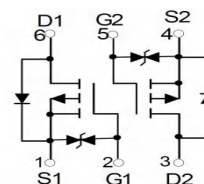
Low On-Resistance
Low Gate Threshold Voltage
Low Input Capacitance
Fast Switching Speed

K84

SOT-363



Equivalent Circuit



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

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

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

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 4)						
Drain-Source Breakdown Voltage	BV _{DSS}	-50	-75		V	V _{GS} = 0V, I _D = -250 A
Zero Gate Voltage Drain Current	I _{DSS}			-15 -60	μA μA	V _{DS} = -50V, V _{GS} = 0V, T _J = 25 C V _{DS} = -50V, V _{GS} = 0V, T _J = 125 C
Gate-Body Leakage	I _{GSS}			10	uA	V _{GS} = 20V, V _{DS} = 0V
ON CHARACTERISTICS (Note 4)						
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
DYNAMIC CHARACTERISTICS						
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	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{D(ON)}		10		ns	V _{DD} = -30V, I _D = -0.27A, R _{GEN} = 50 , V _{GS} = -10V
Turn-Off Delay Time	t _{D(OFF)}		18		ns	

RATING AND CHARACTERISTIC CURVES

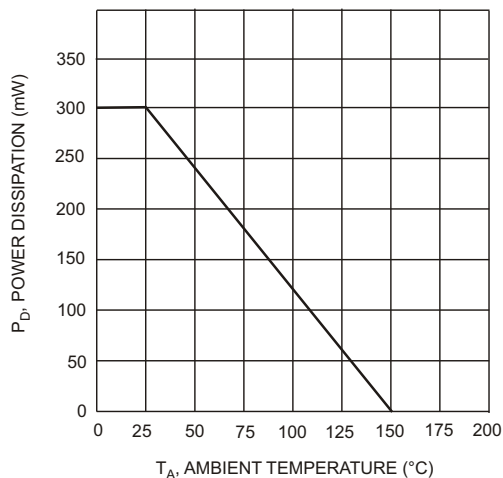


Fig. 1, Max Power Dissipation vs Ambient Temperature

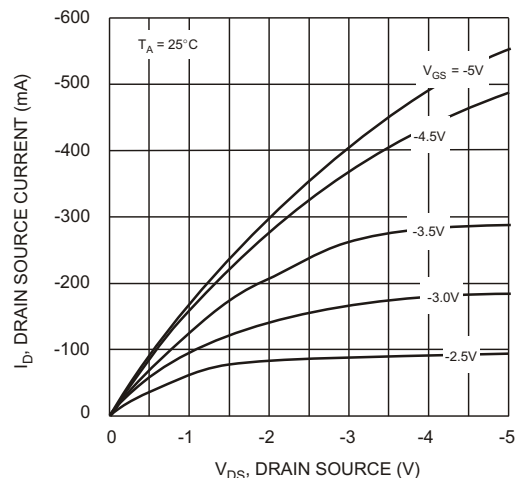


Fig. 2, Drain Source Current vs. Drain Source Voltage

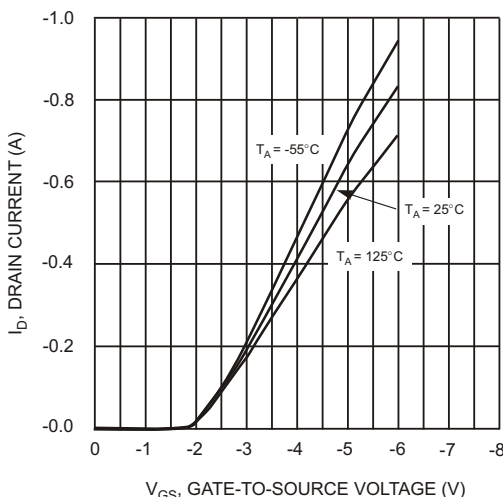


Fig. 3, Drain Current vs. Gate Source Voltage

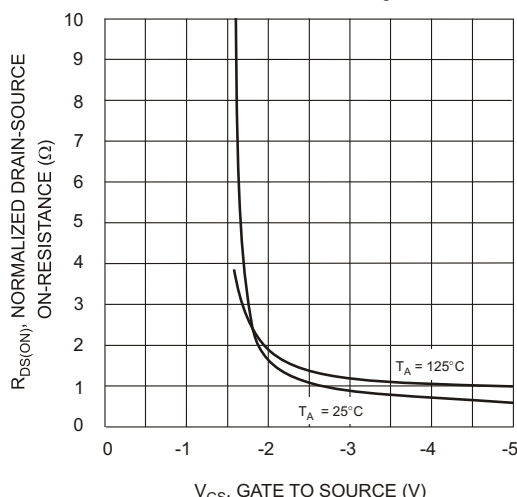


Fig. 4, On Resistance vs. Gate Source Voltage

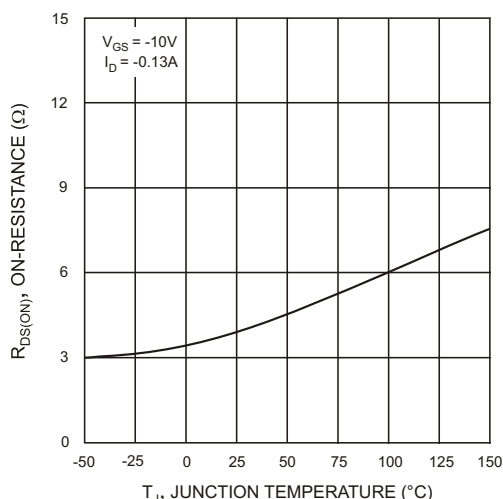


Fig. 5, On-Resistance vs. Junction Temperature

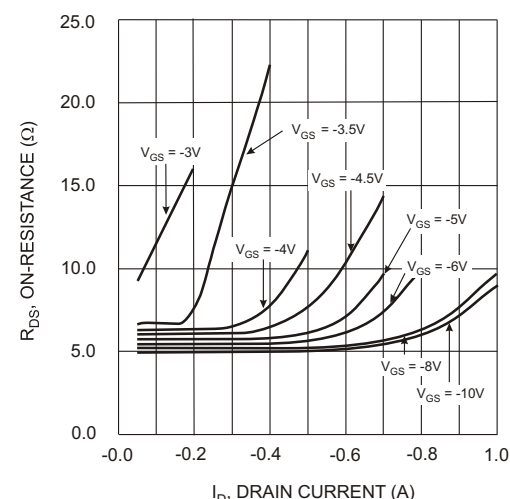
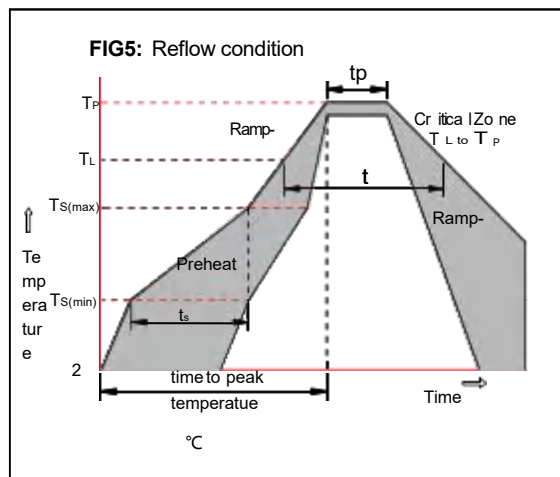


Fig. 6, On-Resistance vs. Drain Current

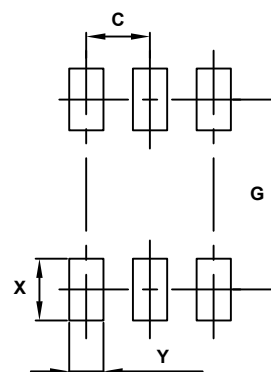
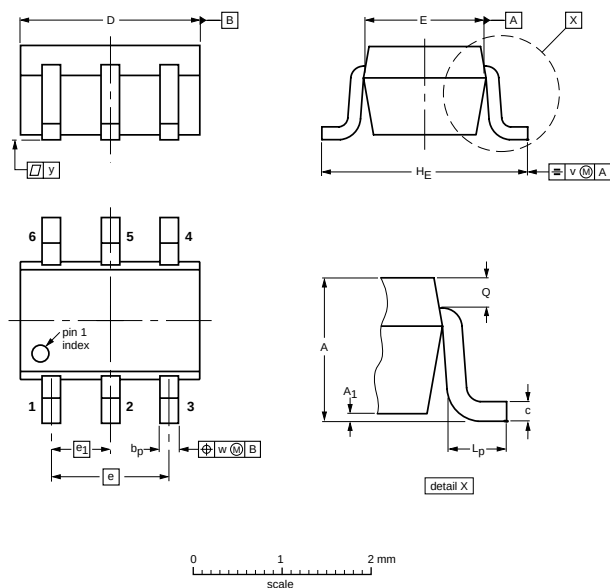
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

SOT-363



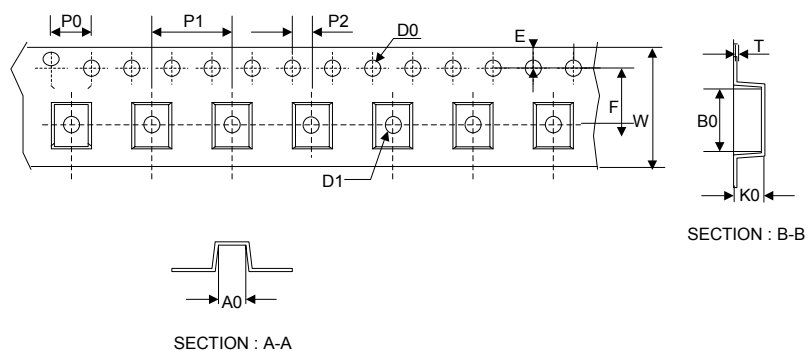
Dimensions	Value (in mm)
C	0.65
G	1.90
X	0.85
Y	0.40

DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

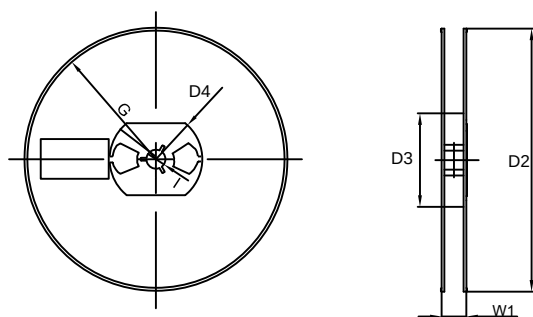
Tape & reel specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	1.00±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	3.00±0.20
B0	3.00±0.20
K0	1.30±0.20
T	0.20±0.20
D2	177.0±5.0
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0

7" Reel



Quantity: 3000PCS