

N-Channel JFET

40 V, 55 to 95 μ A, 0.10 ms, CP

2SK545


SC-59 / CP3
CASE 318BJ

Features

- Small I_{GSS}
- Small C_{iss}
- Ultrasmall Package permitting 2SK545-applied Sets to be Compact
- This is a Pb-Free Device

Applications

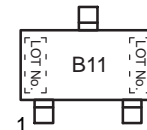
- Impedance Converter Applications
- Infrared Sensor

ABSOLUTE MAXIMUM RATINGS (at $T_A = 25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}	40	V
Gate-to-Drain Voltage	V_{GDS}	-40	V
Gate Current	I_G	10	mA
Drain Current	I_D	1	mA
Allowable Power Dissipation	P_D	100	mW
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +125	$^\circ\text{C}$

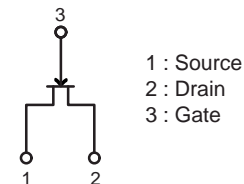
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

MARKING DIAGRAM



B11 = Specific Device Code

ELECTRICAL CONNECTION



ORDERING INFORMATION

Device	Package	Shipping†
2SK545-11D-TB-E	SC-59/CP3 (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.

Table 1. ELECTRICAL CHARACTERISTICS (at $T_A = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_D = -10\ \mu\text{A}$, $V_{DS} = 0\ \text{V}$	-40			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -20\ \text{V}$, $V_{DS} = 0\ \text{V}$			-500	pA
Drain Current	I_{DSS}	$V_{DS} = 10\ \text{V}$, $V_{GS} = 0\ \text{V}$	55		95	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\ \text{V}$, $I_D = 1\ \mu\text{A}$		-1.2	-4.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1\ \text{kHz}$	0.05	0.10		ms
Input Capacitance	C_{iss}	$V_{DS} = 10\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1\ \text{MHz}$		1.7		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 10\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1\ \text{MHz}$		0.7		pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS

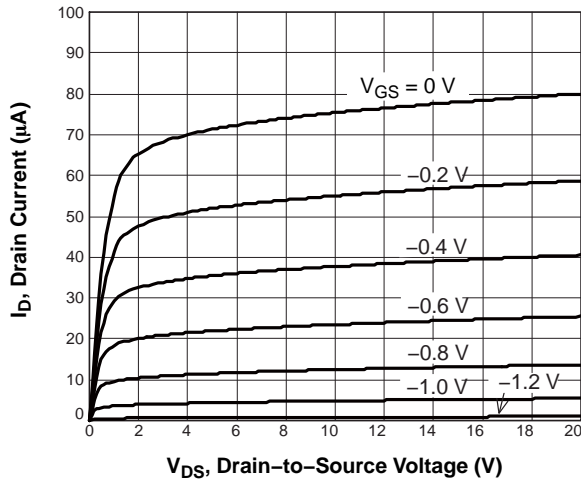


Figure 1. Drain Current vs. Drain-to-Source Voltage

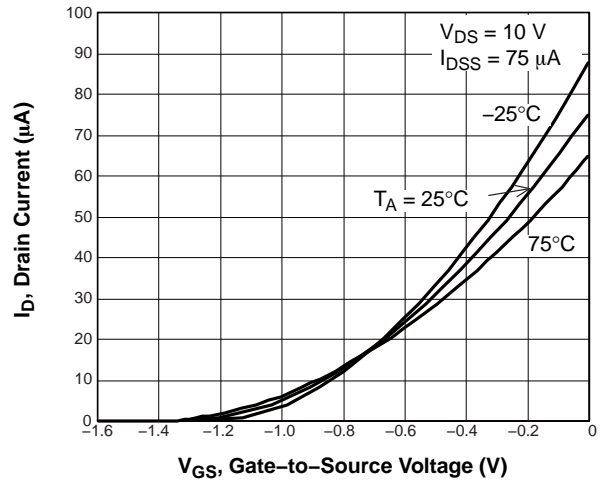


Figure 2. Drain Current vs. Gate-to-Source Voltage

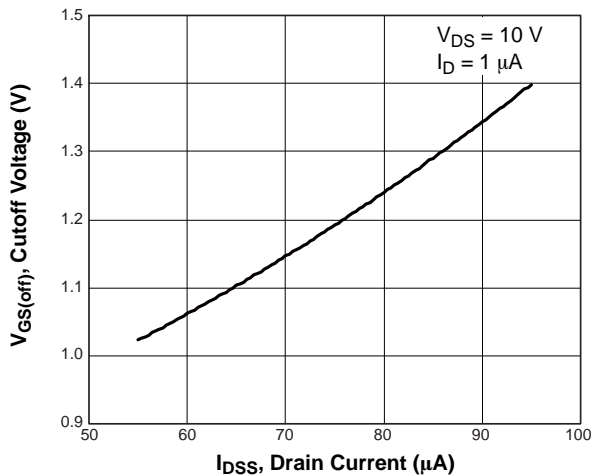


Figure 3. Cutoff Voltage vs. Drain Current

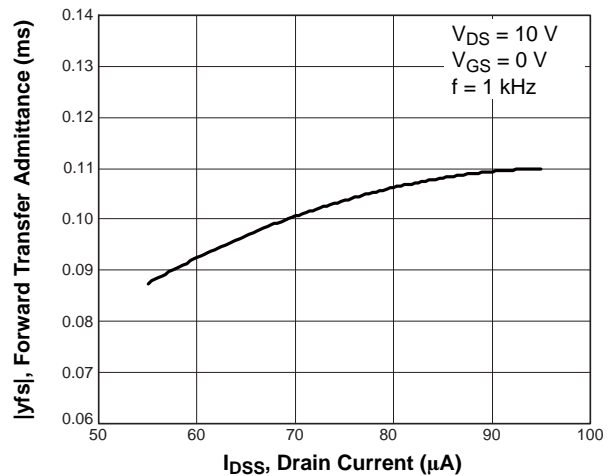


Figure 4. Forward Transfer Admittance vs. Drain Current

TYPICAL CHARACTERISTICS

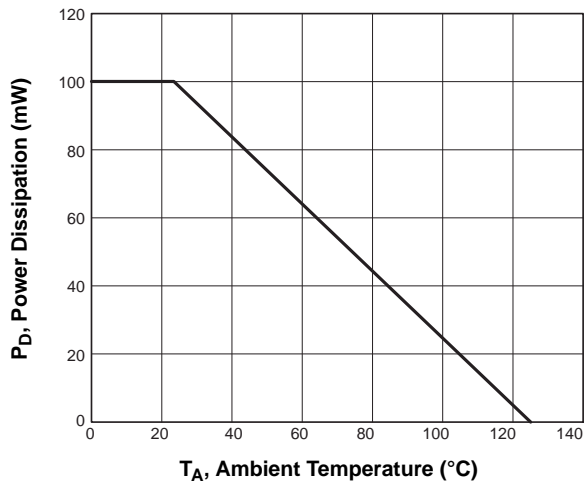


Figure 5. Power Dissipation vs. Ambient Temperature

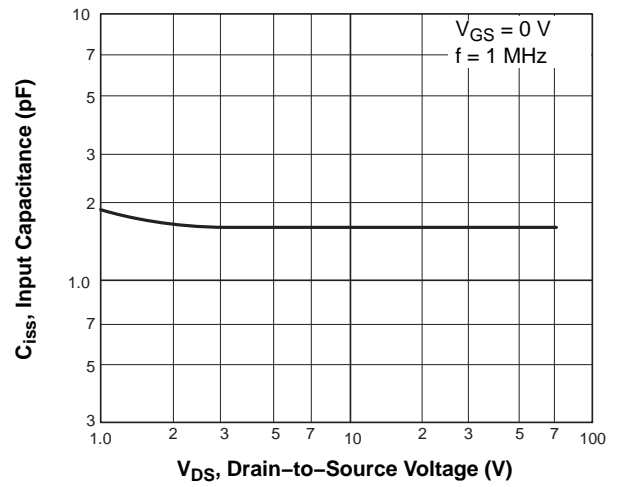


Figure 6. Input Capacitance vs. Drain-to-Source Voltage

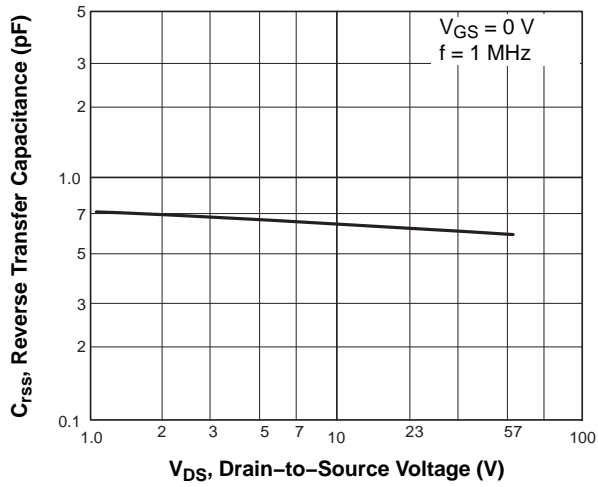


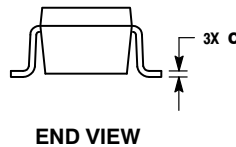
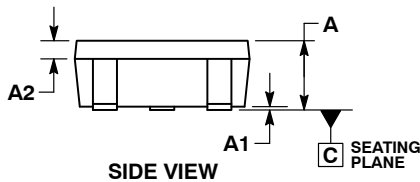
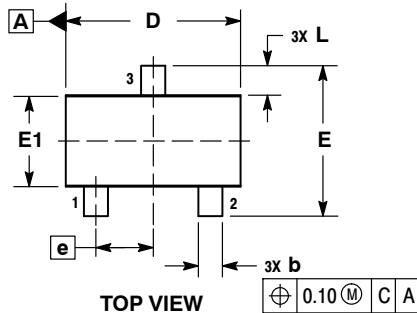
Figure 7. Reverse Transfer Capacitance vs. Drain-to-Source Voltage



SCALE 2:1

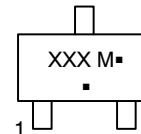
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NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.20 PER SIDE.
4. DIMENSIONS D AND E1 ARE MEASURED AT THE OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DIMENSIONS b AND c APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 AND 0.20 FROM THE TIP.

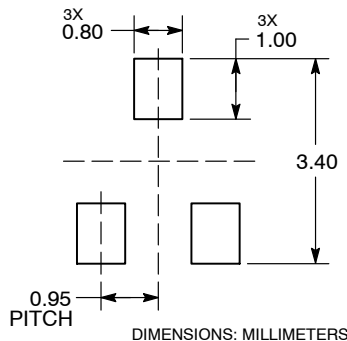
DIM	MILLIMETERS	
	MIN	MAX
A	0.95	1.35
A1	0.00	0.10
A2	0.20	0.40
b	0.35	0.50
c	0.10	0.20
D	2.75	3.05
E	2.30	2.70
E1	1.35	1.65
e	0.95 BSC	
L	0.35	0.75

GENERIC MARKING DIAGRAM


XXX = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking.
Pb-Free indicator, "G" or microdot "▪", may or may not be present.

RECOMMENDED SOLDERING FOOTPRINT*


*For additional information on our Pb-Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, [SOLDERRM/D](#).

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