Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V_{DSS}	-30	V
Gate-Source Voltage			V_{GSS}	±12	V
Continuous Drain Current (Note 4) V_{GS} = -10V	Steady State	T_A = 25°C T_A = 70°C	I_D	3.1 2.5	A
Continuous Drain Current (Note 4) V_{GS} = -4.5V	Steady State	T_A = 25°C T_A = 70°C	I_D	2.7 2.2	A
Continuous Drain Current (Note 5) V_{GS} = -10V	Steady State	T_A = 25°C T_A = 70°C	I_D	3.9 3.1	A
Continuous Drain Current (Note 5) V_{GS} = -4.5V	Steady State	T_A = 25°C T_A = 70°C	I_D	3.3 2.7	A
Maximum Continuous Body Diode Forward Current			I_S	2.2	A
Pulsed Drain Current (10us pulse, duty cycle=1%)			I_{DM}	20	A

Thermal Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 4)	P_D	1.15	W
Thermal Resistance, Junction to Ambient (Note 4)	$R_{\theta JA}$	108	°C/W
Total Power Dissipation (Note 5)	P_D	1.75	W
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	72	°C/W
Thermal Resistance, Junction to Case (Note 5)	$R_{\theta Jc}$	23.4	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 6)						
Drain-Source Breakdown Voltage	BV_{DSS}	-30	—	—	V	V_{GS} = 0V, I_D = -250μA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-100	nA	V_{DS} = -30V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	—	—	±100	nA	V_{GS} = ±12V, V_{DS} = 0V
ON CHARACTERISTICS (Note 6)						
Gate Threshold Voltage	$V_{GS(th)}$	-0.5	-0.9	-1.5	V	V_{DS} = V_{GS}, I_D = -250μA
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	—	65	75	mΩ	V_{GS} = -10V, I_D = -4.2A
		—	75	98		V_{GS} = -4.5V, I_D = -4.0A
		—	98	150		V_{GS} = -2.5V, I_D = -3.0A
Forward Transfer Admittance	$\|Y_{fs}\|$	—	5	—	S	V_{DS} = -15V, I_D = -4.0A
Diode Forward Voltage	V_{SD}	—	-0.7	-1.0	V	V_{GS} = 0V, I_S = -1A
DYNAMIC CHARACTERISTICS (Note 7)						
Input Capacitance	C_{iss}	—	839	—	pF	V_{DS} = -15V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	47	—		
Reverse Transfer Capacitance	C_{rss}	—	43	—		
Gate Resistance	R_G	—	12.3	—	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1.0MHz
Total Gate Charge (V_{GS} = -4.5V)	Q_g	—	9.0	—	nC	V_{DS} = -15V, I_D = -4.0A
Total Gate Charge (V_{GS} = -10.0V)	Q_g	—	19.8	—		
Gate-Source Charge	Q_{gs}	—	1.6	—		
Gate-Drain Charge	Q_{gd}	—	1.1	—		
Turn-On Delay Time	$t_{D(on)}$	—	9.7	—	ns	V_{GS} = -10V, V_{DD} = -15V, R_G = 6Ω, I_D = -1A
Turn-On Rise Time	t_r	—	17.7	—		
Turn-Off Delay Time	$t_{D(off)}$	—	269	—		
Turn-Off Fall Time	t_f	—	64	—		

Notes:
4. Device mounted on FR-4 PC board, with minimum recommended pad layout, single sided.
5. Device mounted on FR-4 substrate PC board, 2oz copper, with thermal vias to bottom layer 1inch square copper plate
6 .Short duration pulse test used to minimize self-heating effect.
7. Guaranteed by design. Not subject to production testing.

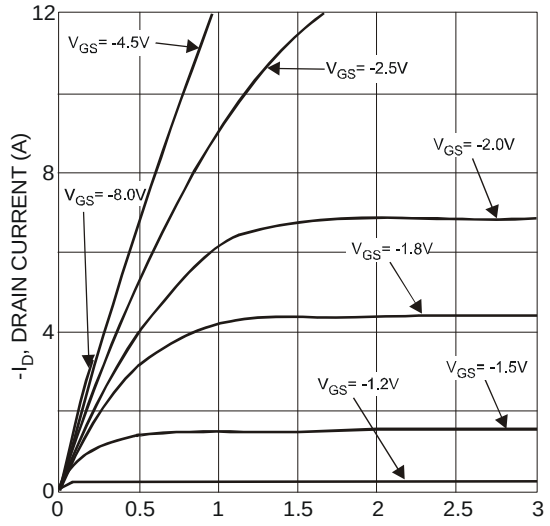


Fig. 1 Typical Output Characteristics

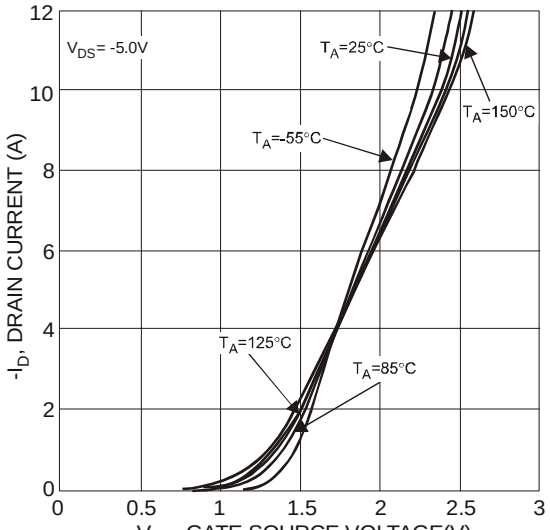


Fig. 2 Typical Transfer Characteristics

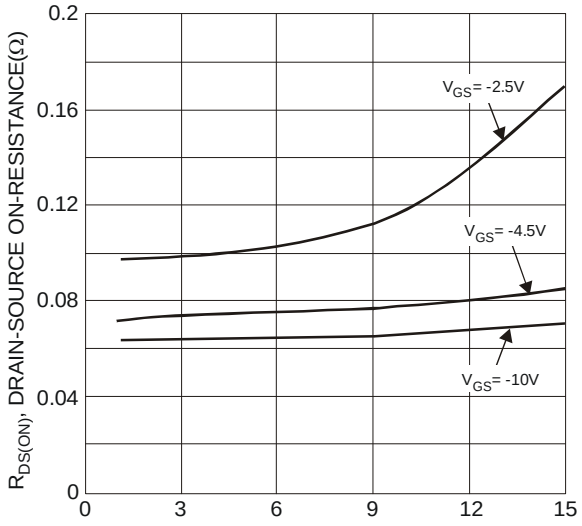


Fig. 3 Typical On-Resistance vs. Drain Current and Gate Voltage

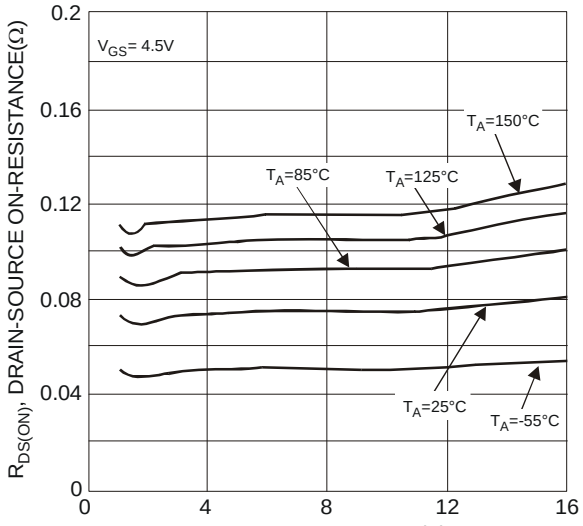


Fig. 4 Typical On-Resistance vs. Drain Current and Temperature

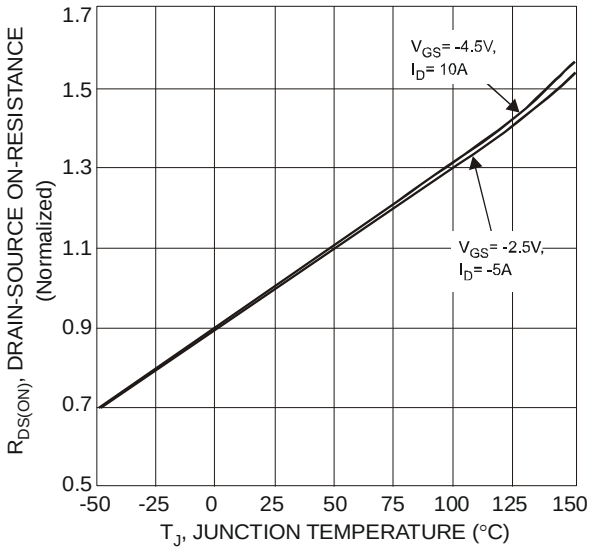


Fig. 5 On-Resistance Variation with Temperature

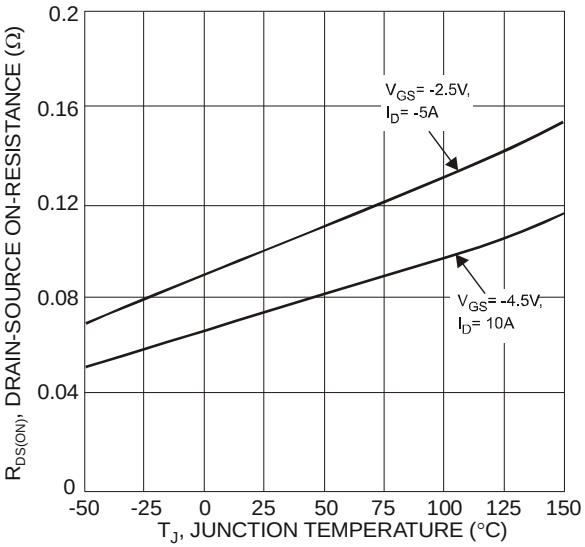


Fig. 6 On-Resistance Variation with Temperature

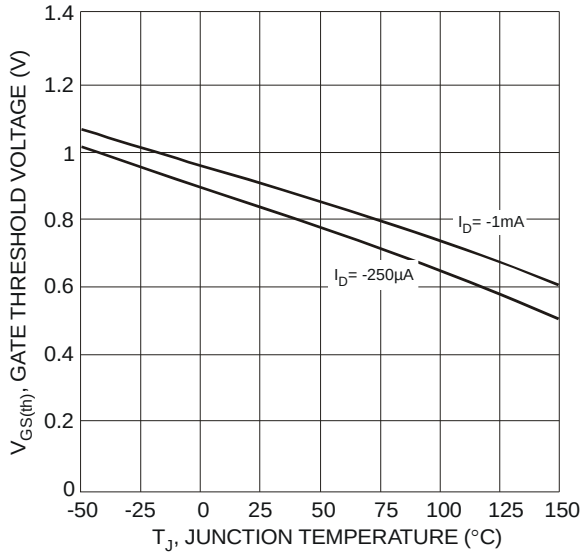


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

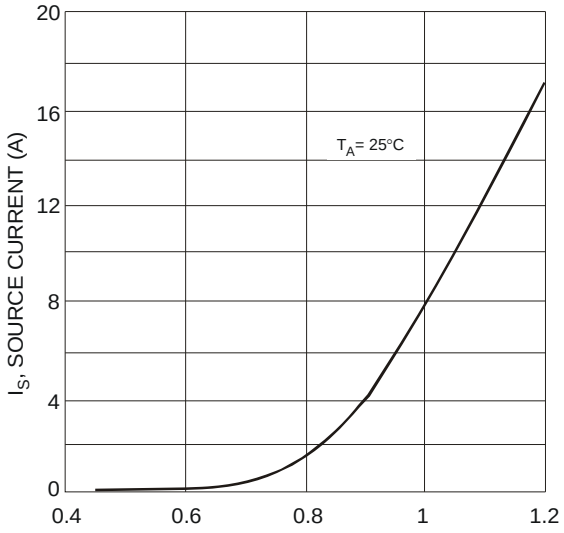


Fig. 8 Diode Forward Voltage vs. Current

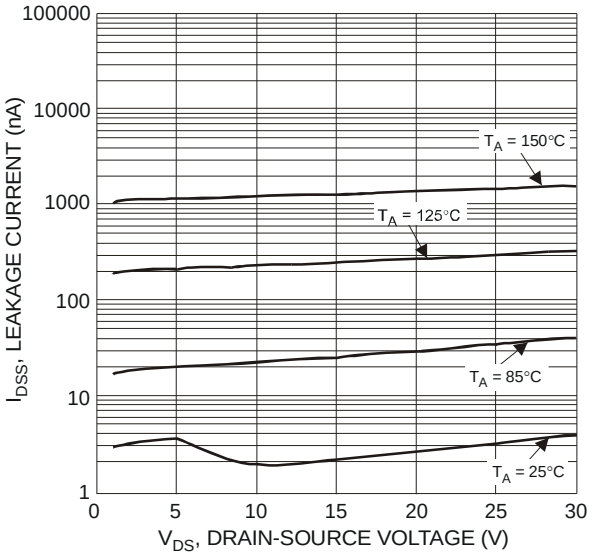


Fig. 9 Typical Drain-Source Leakage Current vs. Voltage

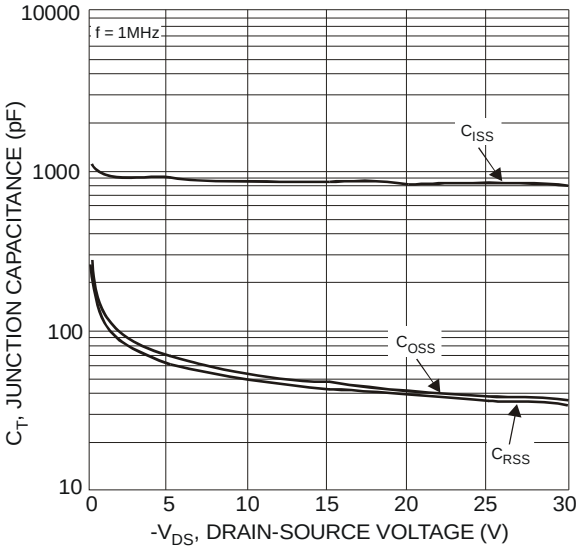


Fig. 10 Typical Junction Capacitance

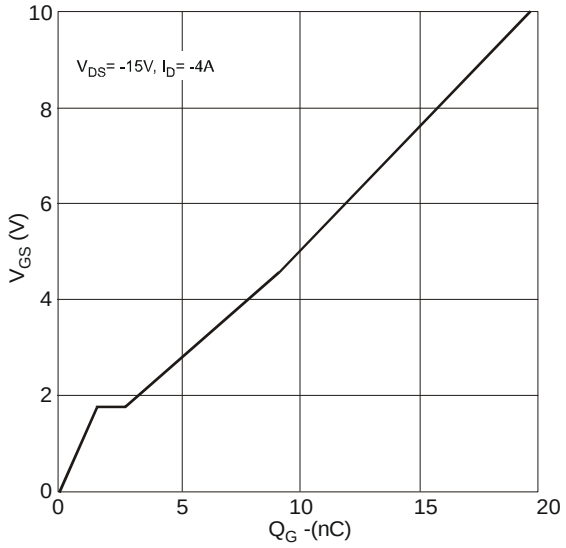


Fig. 11 Gate Charge Characteristics

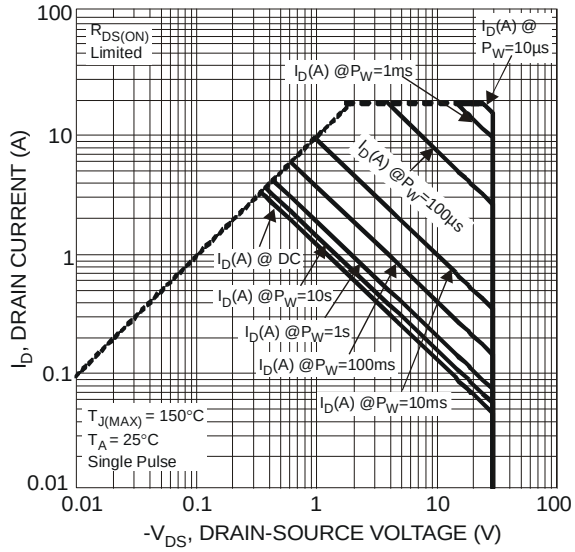


Fig. 12 SOA, Safe Operation Area

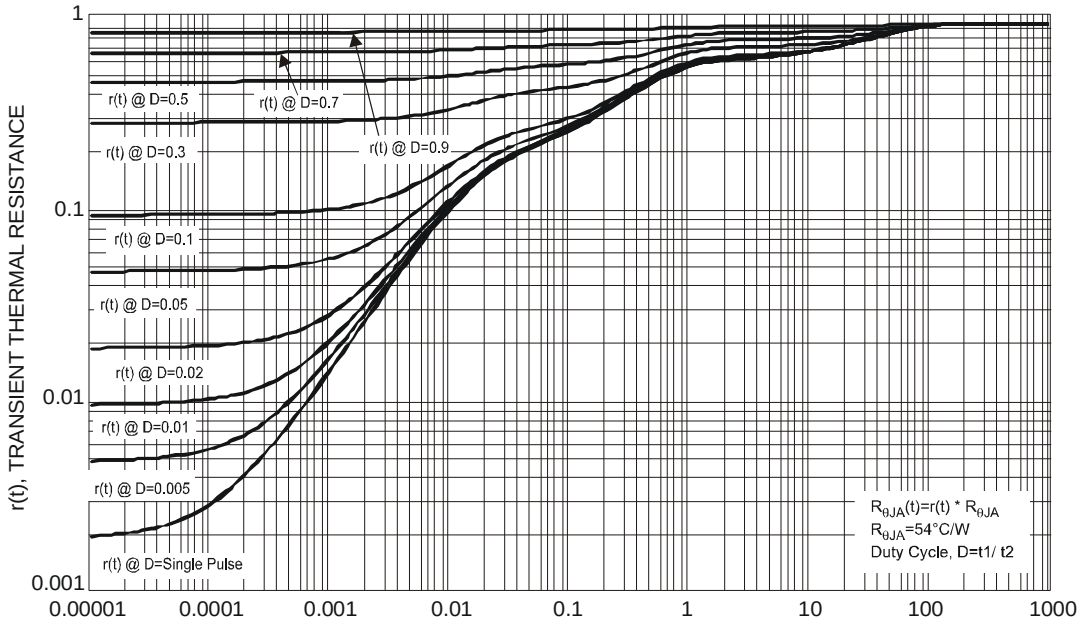
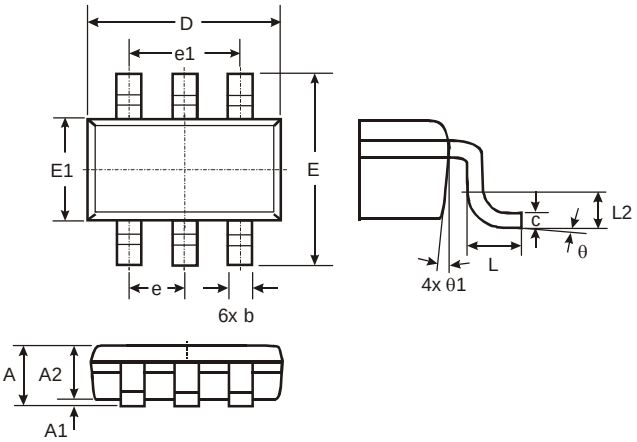


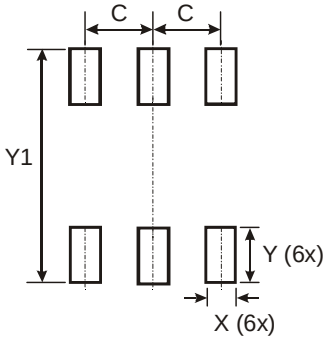
Fig. 13 Transient Thermal Resistance

Package Outline Dimensions



TSOT26			
Dim	**Min**	**Max**	**Typ**
A	—	1.00	—
A1	0.01	0.10	—
A2	0.84	0.90	—
D	—	—	2.90
E	—	—	2.80
E1	—	—	1.60
b	0.30	0.45	
c	0.12	0.20	
e	—	—	0.95
e1	—	—	1.90
L	0.30	0.50	
L2	—	—	0.25
θ	0°	8°	4°
θ1	4°	12°	—
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
C	0.950
X	0.700
Y	1.000
Y1	3.199

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