Maximum Ratings @ T_A = 25°C unless otherwise stated

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V_{DSS}	30	V
Gate-Source Voltage			V_{GSS}	±20	V
Continuous Drain Current (Note 6) V_{GS} = 10V	Steady State	T_A = 25°C T_A = 70°C	I_D	3.5 2.7	A
	t<10s	T_A = 25°C T_A = 70°C	I_D	4.3 3.3	A
Continuous Drain Current (Note 6) V_{GS} = 4.5V	Steady State	T_A = 25°C T_A = 70°C	I_D	2.8 2.1	A
	t<10s	T_A = 25°C T_A = 70°C	I_D	3.4 2.6	A
Pulsed Drain Current (10µs pulse, duty cycle = 1%)			I_{DM}	25	A
Maximum Body Diode Forward Current (Note 5)			I_S	1.5	A

Thermal Characteristics @ T_A = 25°C unless otherwise stated

Characteristic		Symbol	Value	Units
Total Power Dissipation (Note 5)		P_D	0.84	W
Thermal Resistance, Junction to Ambient (Note 5)	Steady state	$R_{\theta JA}$	155	°C/W
	t<10s		109	
Total Power Dissipation (Note 6)		P_D	1.27	W
Thermal Resistance, Junction to Ambient (Note 6)	Steady state	$R_{\theta JA}$	102	°C/W
	t<10s		72	
Thermal Resistance, Junction to Case (Note 6)		$R_{\theta JC}$	34	
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise stated

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 7)						
Drain-Source Breakdown Voltage	BV_{DSS}	30	-	-	V	V_{GS} = 0V, I_D = 250µA
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1.0	µA	V_{DS} = 24V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	-	-	±100	nA	V_{GS} = ±20V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(th)}$	1.3	1.8	2.2	V	V_{DS} = V_{GS}, I_D = 250µA
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	-	35 54	60 100	mΩ	V_{GS} = 10V, I_D = 3.1A V_{GS} = 4.5V, I_D = 2A
Forward Transfer Admittance	$\|Y_{fs}\|$	-	4	-	S	V_{DS} = 5V, I_D = 3.1A
Diode Forward Voltage	V_{SD}	-	0.8	1	V	V_{GS} = 0V, I_S = 1A
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	-	305	-	pF	V_{DS} = 15V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	-	40	-		
Reverse Transfer Capacitance	C_{rss}	-	40	-		
Gate Resistance	R_g	-	1.4	-	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz
Total Gate Charge	Q_g	-	4.1	-	nC	V_{DS} = 15V, V_{GS} = 4.5V, I_D = 3.1A
Total Gate Charge	Q_g	-	9.0	-		V_{DS} = 15V, V_{GS} = 10V, I_D = 3.1A
Gate-Source Charge	Q_{gs}	-	1.2	-		
Gate-Drain Charge	Q_{gd}	-	1.5	-		
Turn-On Delay Time	$t_{D(on)}$	-	2.6	-	ns	V_{GS} = 10V, V_{DS} = 15V, R_G = 3Ω, R_L = 4.7Ω
Turn-On Rise Time	t_r	-	4.6	-		
Turn-Off Delay Time	$t_{D(off)}$	-	13.1	-		
Turn-Off Fall Time	t_f	-	2.5	-		

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

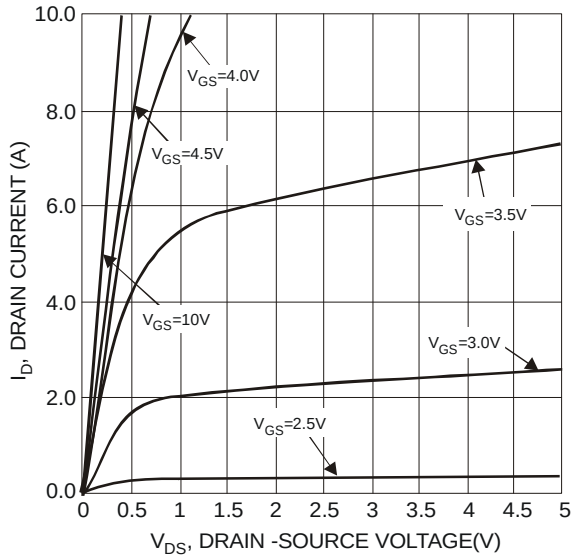


Fig. 1 Typical Output Characteristics

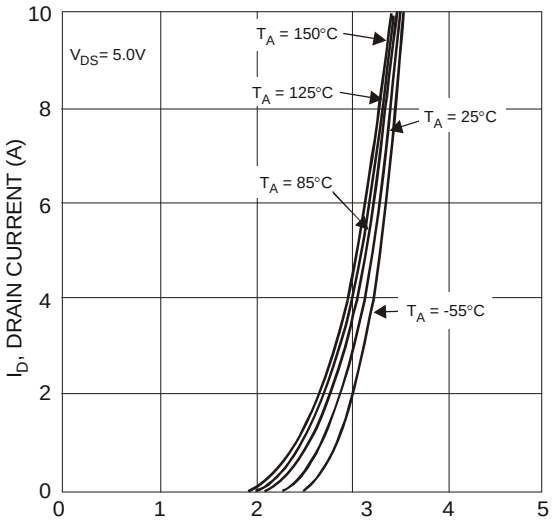


Fig. 2 Typical Transfer Characteristics

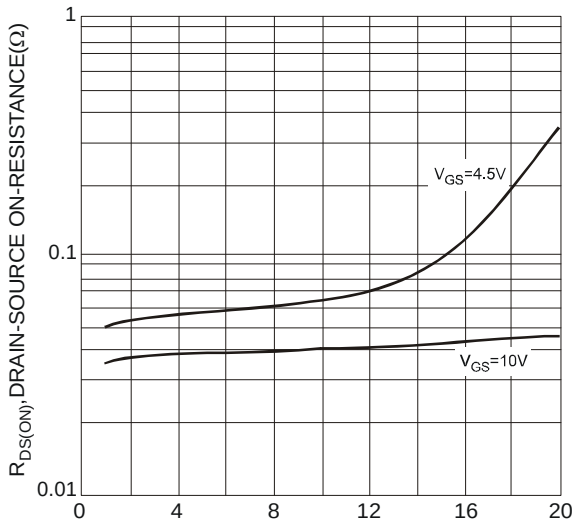


Fig. 3 Typical On-Resistance vs. Drain Current and Gate Voltage

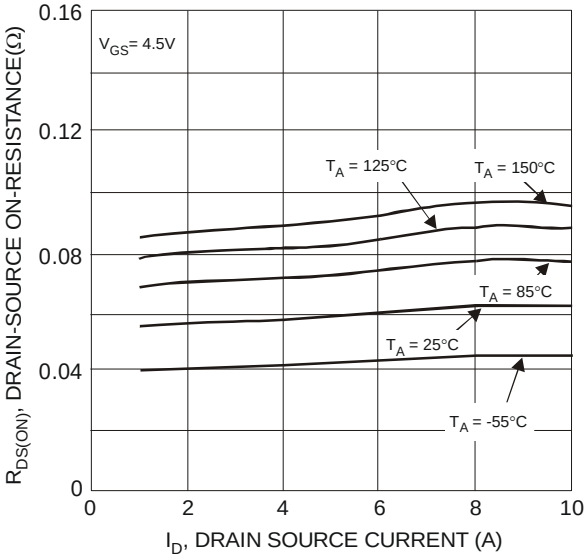


Fig. 4 Typical On-Resistance vs. Drain Current and Temperature

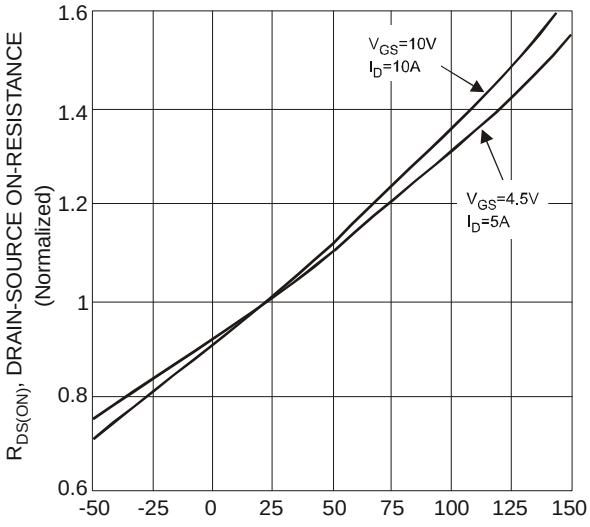


Fig. 5 On-Resistance Variation with Temperature

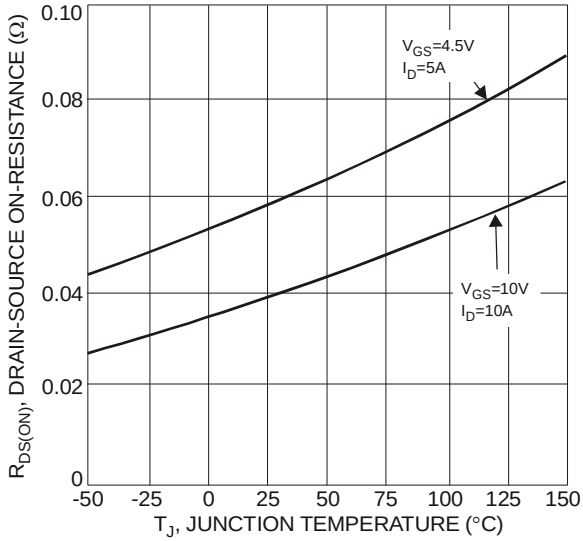


Fig. 6 On-Resistance Variation with Temperature

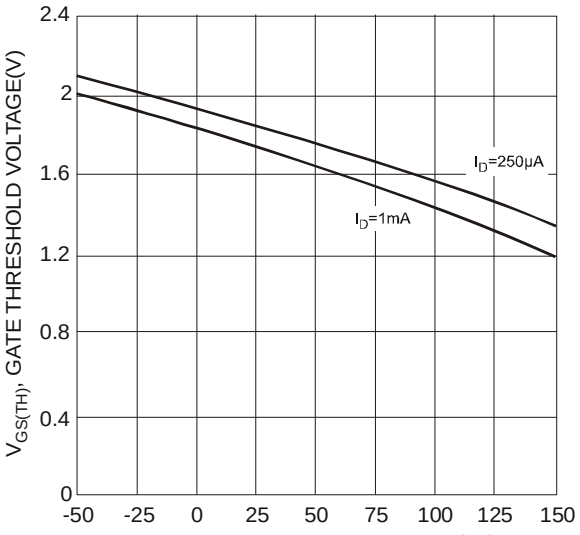


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

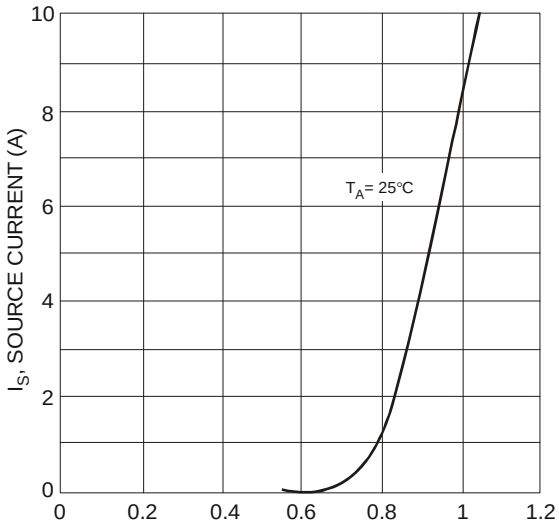


Fig. 8 Diode Forward Voltage vs. Current

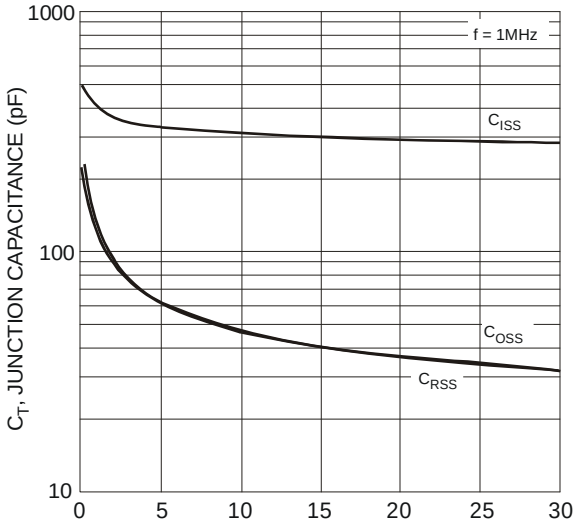


Fig. 9 Typical Junction Capacitance

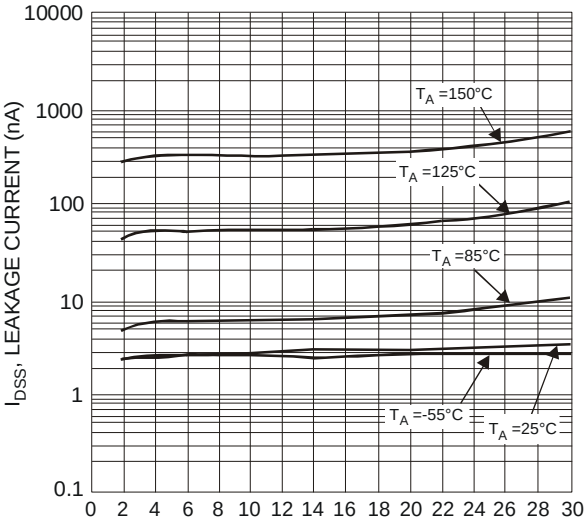


Fig. 10 Typical Drain-Source Leakage Current vs. Voltage

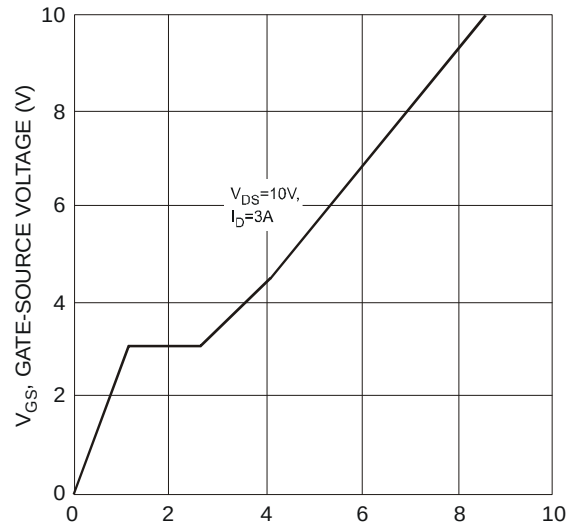


Fig. 11 Gate-Charge Characteristics

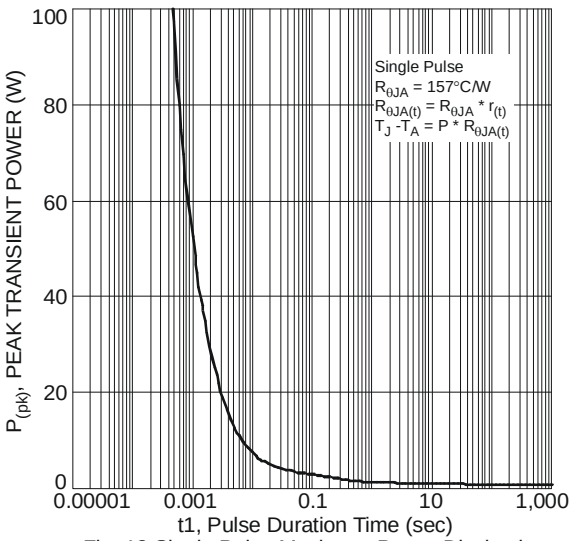


Fig. 12 Single Pulse Maximum Power Dissipation

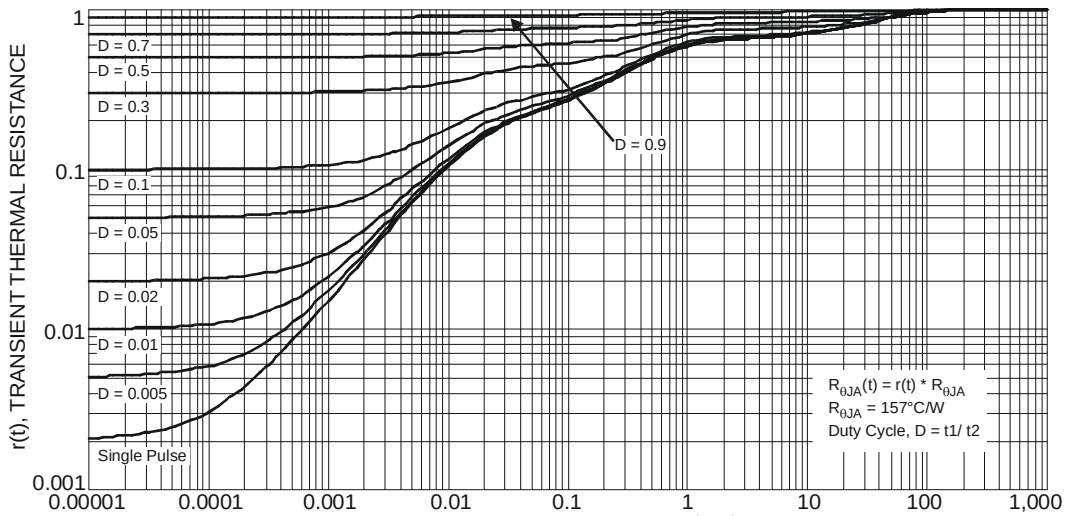
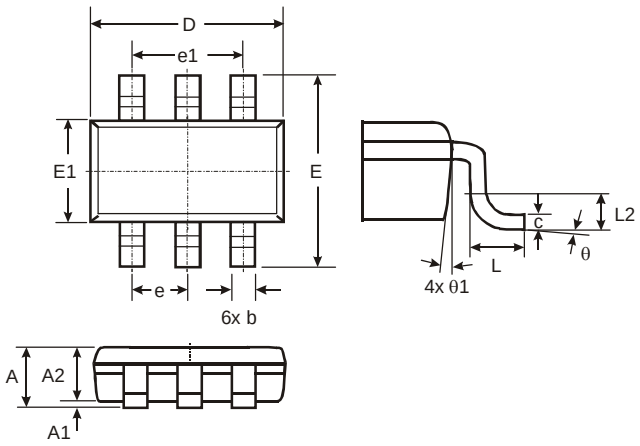


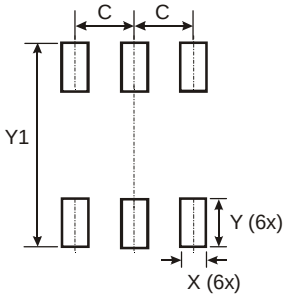
Fig. 13 Transient Thermal Resistance

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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