• 溝槽式場效電晶體 Trench_MOSFET (TSOP-6P)

Part No.	TYPE	VDSS	VGS	VTH		IDS	RDS(Max)					PD	Package	Data Sheet
				Min	Max	25°C	10V	4.5V	2.5V	1.8V	1.25V	25°C		
		V	V	V	V	A	mΩ	mΩ	mΩ	mΩ	mΩ	W		
STP3467	P	20	12	0.35	0.8	5.2	-	90	110	140	-	1.15	TSOP-6P	DL
STN3446	N	20	12	0.4	1.0	5.3	-	48	65	90	-	1.15	TSOP-6P	DL
STP3481	P	30	20	1.0	3.0	5.2	55	75	-	-	-	1.15	TSOP-6P	DL
STN3456	N	30	20	1.0	3.0	6.0	40	50	-	-	-	1.15	TSOP-6P	DL
STC6601	P	30	12	0.4	1.0	2.6	105	120	150	-	-	1.15	TSOP-6P	
	N	30	12	0.8	1.6	2.5	68	78	108	-	-			
STC6602	P	30	20	1.0	3.0	2.6	105	135	-	-	-	1.15	TSOP-6P	DL
	N	30	20	1.0	3.0	2.5	60	80	-	-	-			
STC6604	P	20	12	0.35	0.8	3.4	-	85	110	130	-	1.15	TSOP-6P	
	N	20	12	0.4	1.0	4.0	-	50	60	75	-			
STP6506	P	30	20	1.0	3.0	2.8	105	135	-	-	-	1.15	TSOP-6P	DL
	P	30	20	1.0	3.0	2.8	105	135	-	-	-			
STN6562	N	30	12	0.8	1.6	2.8	-	75	105	-	-	1.15	TSOP-6P	DL
	N	30	12	0.8	1.6	2.8	-	75	105	-	-			
STN8822A	N	20	10	0.4	1.0	6.0	-	25	42	-	-	115	TSOP-6P/ ESD	DL
	N	20	10	0.4	1.0	6.0	-	25	42	-	-			

STC6602

Dual N&P Channel Enhancement Mode MOSFET

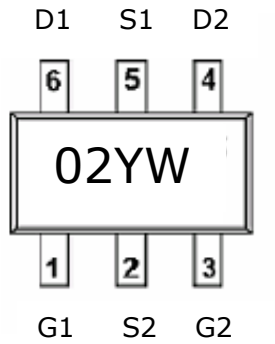
2.8A/-2.8A

DESCRIPTION

The STC6602 is the dual N&P-Channel enhancement mode power field effect transistor which is produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application, such as notebook computer power management and other battery powered circuits, where high-side switching is required.

PIN CONFIGURATION

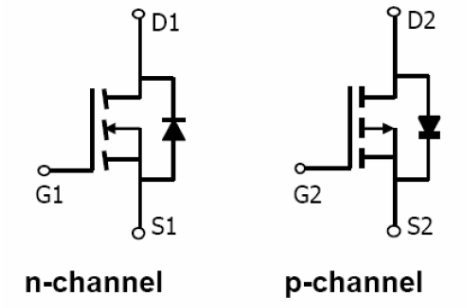
TSOP-6



Y: Year
A: Week Code

FEATURE

- N-Channel
  30V/2.8A, $R_{DS(ON)}$= 60mΩ@V_{GS}=10V
  30V/2.3A, $R_{DS(ON)}$= 80mΩ@V_{GS}=4.5V
- P-Channel
  -30V/-2.8A, $R_{DS(ON)}$=105mΩ@V_{GS}=- 10V
  -30V/-2.5A, $R_{DS(ON)}$=135mΩ@V_{GS}=-4.5V
- Super high density cell design for extremely low RDS (ON)
- Exceptional on-resistance and maximum DC current capability
- TSOP– 6P package design



n-channel **p-channel**

ORDERING INFORMATION

Part Number	Package	Part Marking
STC6602ST6RG	TSOP-6	02YW

※ Week Code Code : A ~ Z ; a ~ z
※ STC6602ST6RG ST6 : TSOP-6; R: Tape Reel ; G: Pb – Free

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ABSOULTE MAXIMUM RATINGS (Ta = 25℃ Unless otherwise noted)

Parameter		Symbol	Typical		Unit
			N	P	
Drain-Source Voltage		V_{DSS}	30	-30	V
Gate-Source Voltage		V_{GSS}	±20	±20	V
Continuous Drain Current (T_J=150℃)	T_A=25℃	I_D	2.8	-2.8	A
	T_A=70℃		2.3	-2.1	
Pulsed Drain Current		I_{DM}	10	-8	A
Continuous Source Current (Diode Conduction)		I_S	1.25	-1.4	A
Power Dissipation	T_A=25℃	P_D	1.15		W
	T_A=70℃		0.75		
Operation Junction Temperature		T_J	-55/150		℃
Storage Temperature Range		T_{STG}	-55/150		℃
Thermal Resistance-Junction to Ambient	T≦10sec	$R_{\theta JA}$	50	52	℃/W
	Steady State		90	90	

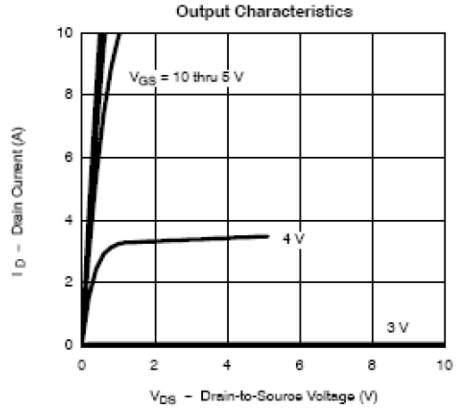
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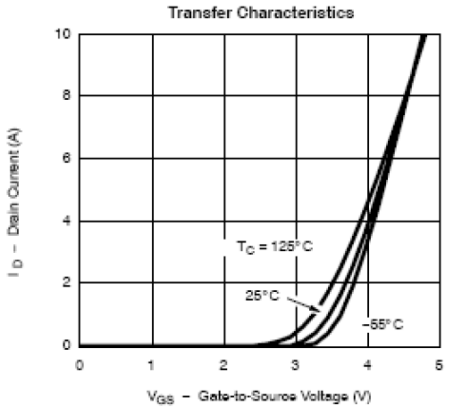
ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

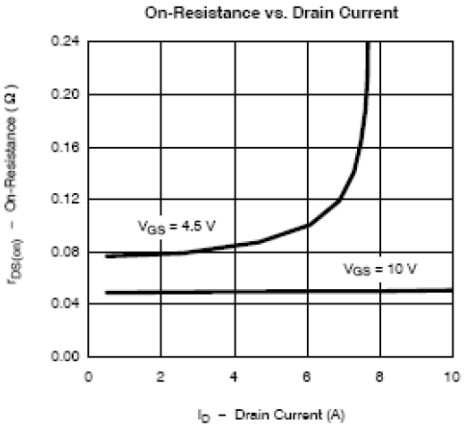
Parameter	Symbol	Condition		Min	Typ	Max	Unit
Static							
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250uA V_{GS}=0V,I_D=-250uA	N p	30 -30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS,I_D=250uA V_{DS}=VGS,I_D=-250uA	N P	1 1		3 -3	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V	N p			±100 ±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V,V_{GS}=0V V_{DS}=-30V,V_{GS}=0V	N P			1 -1	uA
		V_{DS}=30V,V_{GS}=0V T_J=55℃ V_{DS}=-30V,V_{GS}=0V T_J=55℃	N P			10 -10	
On-State Drain Current	$I_{D(on)}$	V_{DS}≦5V,V_{GS}=10V V_{DS}≦-5V,V_{GS}=-10V		6 -6			A
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=2.8A V_{GS}=-10V,I_D=-2.8A			0.043 0.088	0.060 0.105	Ω
		V_{GS}=4.5V,I_D=2.3A V_{GS}=-4.5V,I_D=-2.5A			0.056 0.118	0.080 0.135	
Forward Transconductance	g_{fs}	V_{DS}=10V,I_D=2.8A V_{DS}=-10V,I_D=-2.8A			4.6 -4		S
Diode Forward Voltage	V_{SD}	I_S=1.25A,V_{GS}=0V I_S=-1.2A,V_{GS}=0V			0.8 -0.8	1.2 -1.2	V
Dynamic							
Total Gate Charge	Q_g	N-Channel V_{DS}=15V,V_{GS}=4.5V, V_{DS}=2.0A P-channel V_{DS}=-15V,V_{GS}=-4.5V, V_{DS}=-2.0A	N P		4.5 5.8	10 10	nC
Gate-Source Charge	Q_{gs}		N P		0.8 0.8		
Gate-Drain Charge	Q_{gd}		N P		1.0 1.5		
Turn-On Time	$T_{d(on)}$	N-Channel V_{DD}=15V, R_L=10Ω, V_{GEN}=10V, R_G=3Ω P-Channel V_{DD}=-15V, R_L=15Ω, V_{GEN}=-10V, R_G=3Ω	N P		8 9	20 20	nS
	t_r		N P		12 9	30 20	
Turn-Off Time	$T_{d(off)}$		N P		17 18	35 35	
	t_f		N P		8 6	20 20	

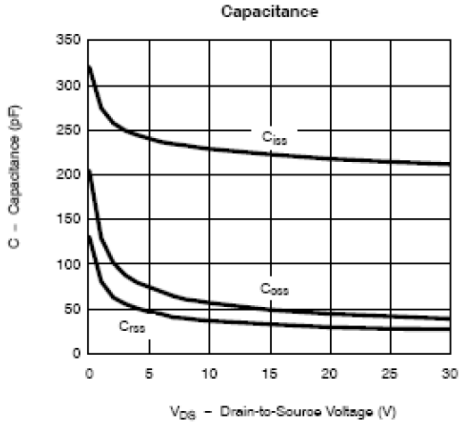
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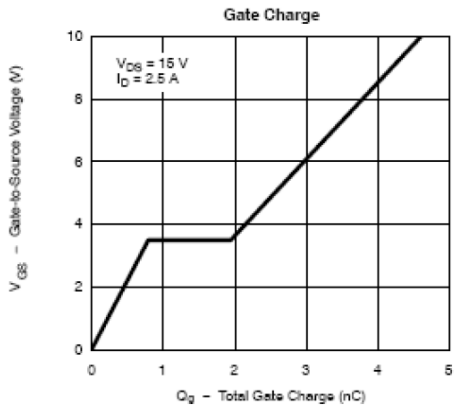
TYPICAL CHARACTERICTICS (N-Channel)

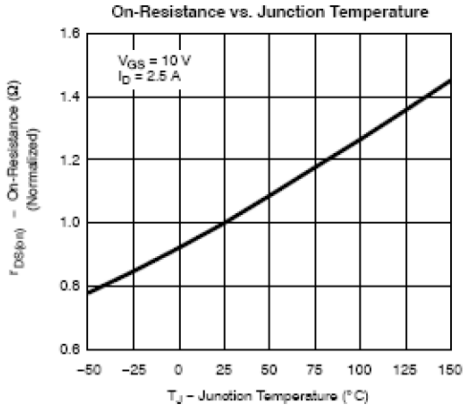








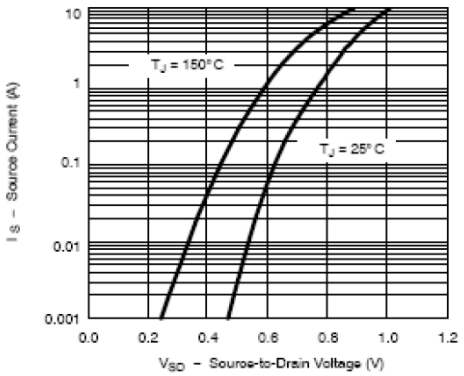




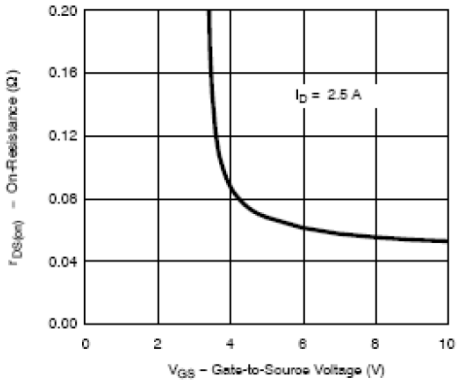
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TYPICAL CHARACTERICTICS (N-Channel)

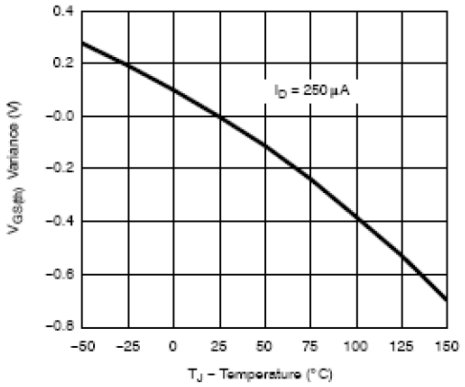
Source-Drain Diode Forward Voltage



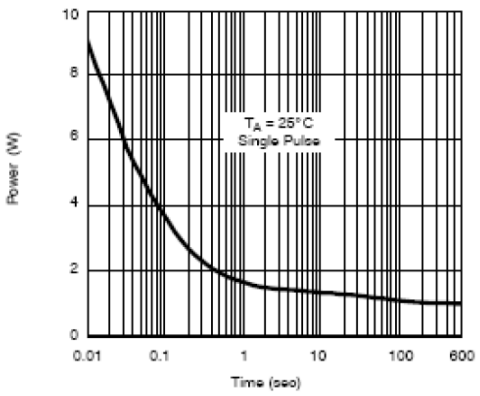
On-Resistance vs. Gate-to-Source Voltage



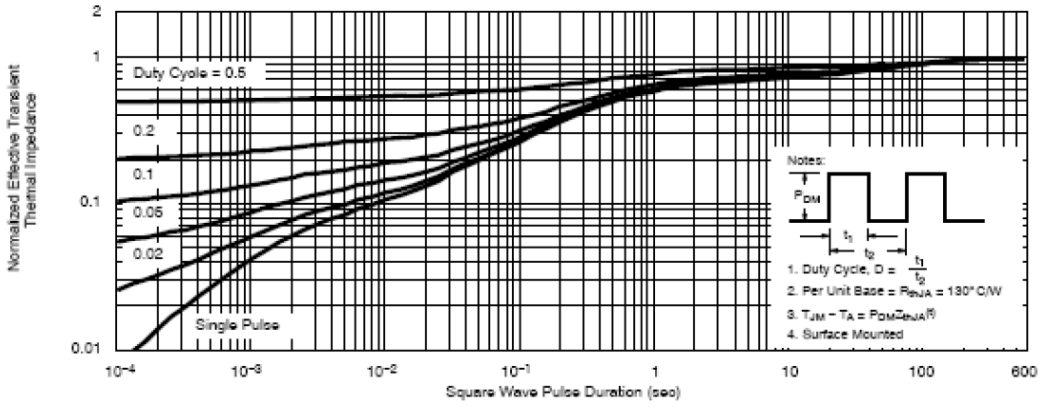
Threshold Voltage



Single Pulse Power

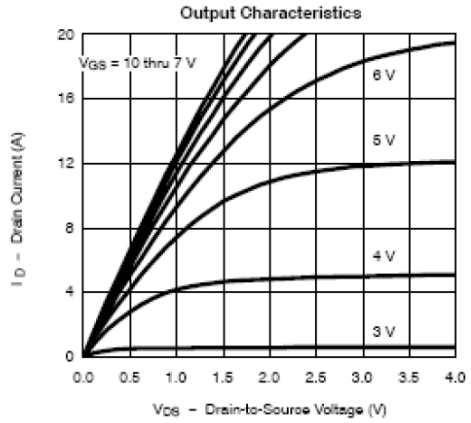


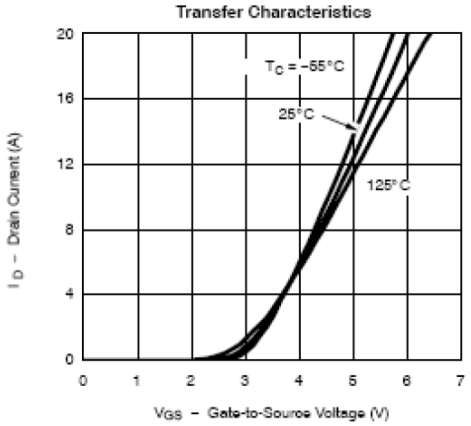
Normalized Thermal Transient Impedance, Junction-to-Ambient

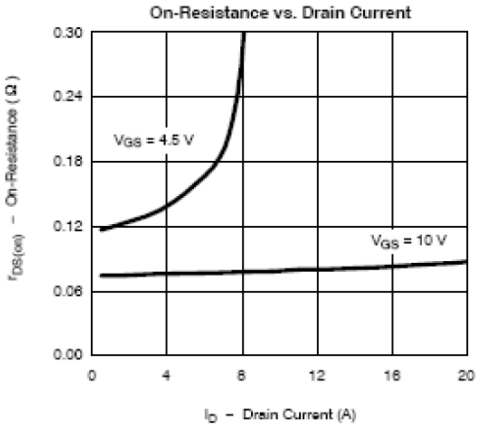


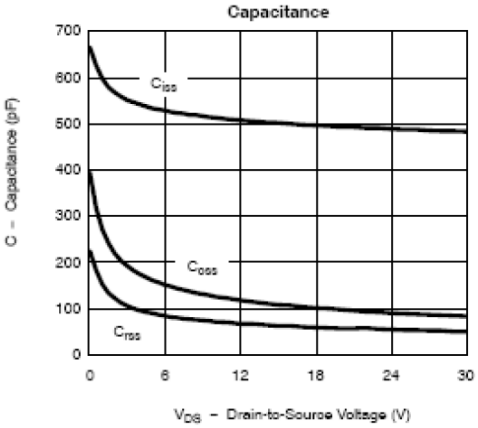
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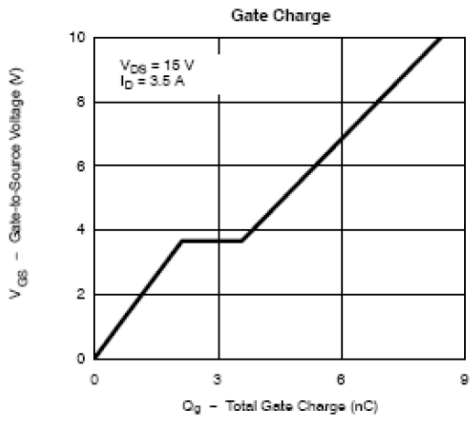
TYPICAL CHARACTERICTICS (P-Channel)

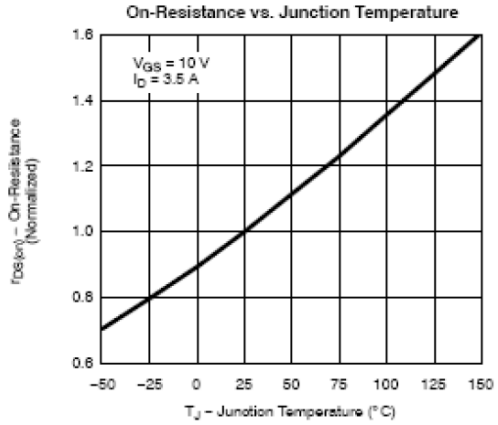








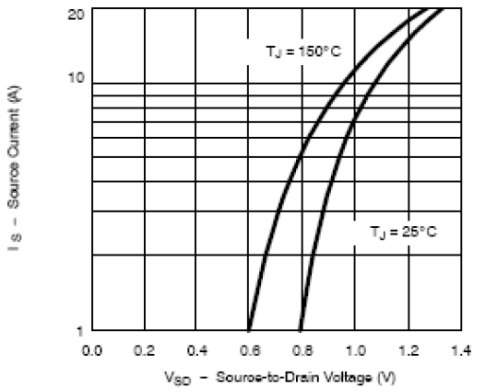




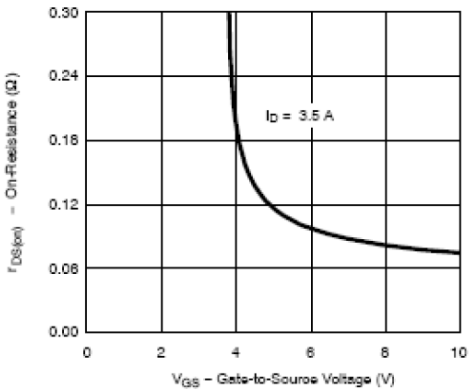
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TYPICAL CHARACTERICTICS (P-Channel)

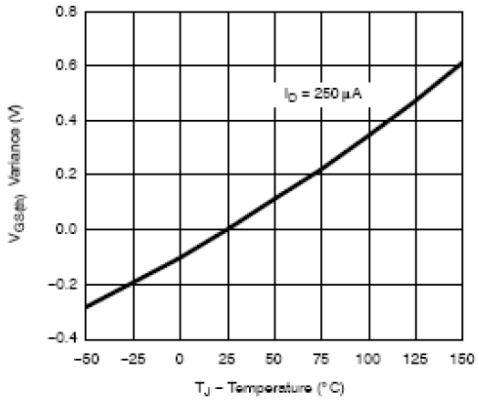
Source-Drain Diode Forward Voltage



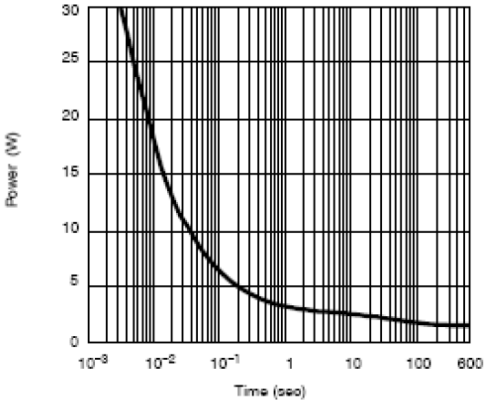
On-Resistance vs. Gate-to-Source Voltage



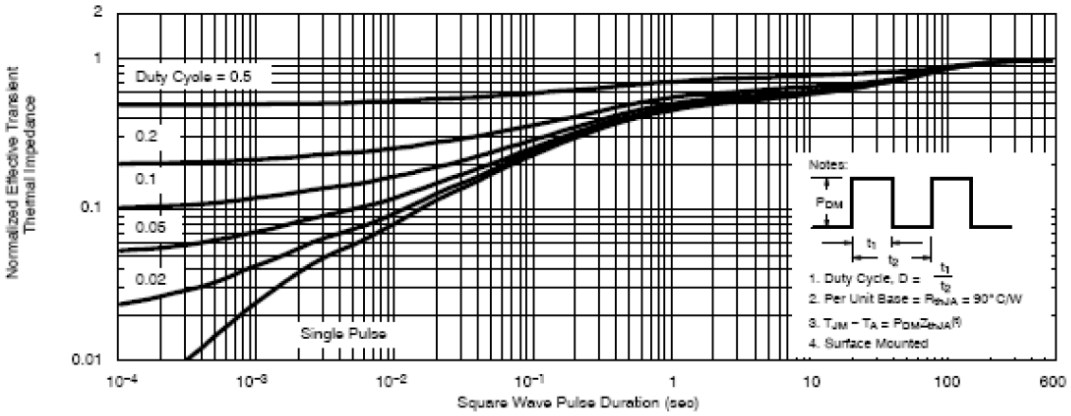
Threshold Voltage



Single Pulse Power

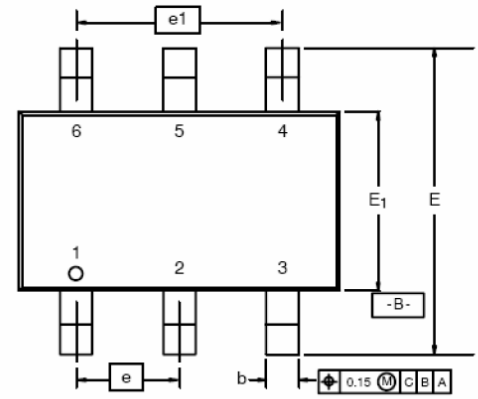


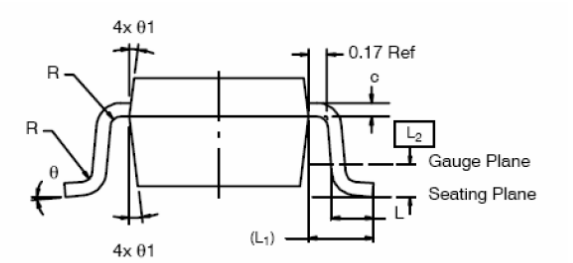
Normalized Thermal Transient Impedance, Junction-to-Ambient



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TSOP-6 PACKAGE OUTLINE





Dim	MILLIMETERS			INCHES		
	Min	Nom	Max	Min	Nom	Max
A	0.91	-	1.10	0.036	-	0.043
A_1	0.01	-	0.10	0.0004	-	0.004
A_2	0.90	-	1.00	0.035	0.038	0.039
b	0.30	0.32	0.45	0.012	0.013	0.018
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.95	3.05	3.10	0.116	0.120	0.122
E	2.70	2.85	2.98	0.106	0.112	0.117
E_1	1.55	1.65	1.70	0.061	0.065	0.067
e	1.00 BSC			0.0394 BSC		
e_1	1.90	2.00	2.10	0.075	0.080	0.085
L	0.35	-	0.50	0.014	-	0.020
L_1	0.60 Ref			0.024 Ref		
L_2	0.25 BSC			0.010 BSC		
R	0.10	-	-	0.004	-	-
θ	0°	4°	8°	0°	4°	8°
θ_1	7° Nom			7° Nom		

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