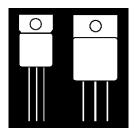
LOW VOLTAGE, LOW R_{DS(on)} POWER MOSFETS IN HERMETIC ISOLATED PACKAGE



50V And 60V Ultra Low R_{DS(on)} Power MOSFETs In TO-257 And TO-254 Isolated Packages

FEATURES

- · Isolated Hermetic Metal Packages
- Ultra Low R_{DS(on)}
- Low Conductive Loss/Low Gate Charge
- Available Screened To MIL-S-19500, TX, TXV And S Levels
- · Ceramic Feedthroughs Available

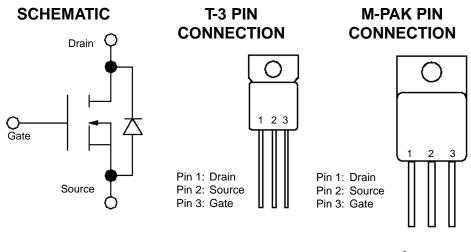
DESCRIPTION

This series of hermetic packaged MOSFETs are ideally suited for low voltage applications; battery powered voltage power supplies, motor controls, dc to dc converters and synchronous rectification. The low conduction loss allows smaller heat sinking and the low gate charge simpler drive circuitry.

MAXIMUM RATINGS (Per Device)

PART NO.	V _{DS} (V)	$R_{DS(on)}(\Omega)$	I _D (A)	Package
OM60N06SA	60	.025	60	TO-254AA
OM50N06SA	60	.030	50	TO-254AA
OM50N06ST	60	.035	50	TO-257AA
OM60N05SA	50	.025	60	TO-254AA
OM50N05SA	50	.030	50	TO-254AA
OM50N05ST	50	.035	50	TO-257AA

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OM60N06SA - OM50N05ST

ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

	Parameter	60N06SA	50N06ST 50N05SA	60N05SA	50N05ST 50N05SA	Units
V _{DS}	Drain-Source Voltage	60	60	50	50	V
V_{DGR}	Drain-Gate Voltage ($R_{GS} = 1 \text{ M}\Omega$)	60	60	50	50	٧
V _{GS}	Gate-Source Voltage, Continuous	<u>+</u> 20	<u>+</u> 20	<u>+</u> 20	<u>+</u> 20	V
I _D @ T _C = 25°C	Continuous Drain Current ²	55	50	55	50	Α
I _D @ T _C = 100°C	Continuous Drain Current ²	37	33	37	33	Α
I _{DM}	Pulsed Drain Current ¹	220	200	220	200	Α
P _D @ T _C = 25°C	Maximum Power Dissipation	100	100	100	100	W
P _D @ T _C = 100°C	Maximum Power Dissipation	40	40	40	40	W
Junction-To-Case	Linear Derating Factor ¹	.80	.80	.80	.80	W/°C
T _J	Operating and	FF to 150	FF to 150	FF to 150	FF to 150	°C
T _{stg}	Storage Temperature Range	-55 to 150	-55 to 150	-55 to 150	-55 to 150	
Lead Temperature	(1/16" from case for 10 secs.)	300	300	300	300	°C

¹ Pulse Test: Pulse width \leq 300 µsec. Duty Cycle \leq 1.5%. 2 Package Limited SA I $_0$ = 25 A, SC SC I $_0$ = 35 A @ 25° C

THERMAL RESISTANCE

R _{th IC}	Junction-to-Case	1.25	°C/W

PACKAGE LIMITATIONS

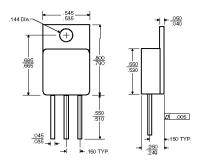
	Parameters	TO254AA	TO-257AA	Unit
I _D	Continuous Drain Current	25	15	Α
	Linear Derating Factor, Junction-to-Ambient	.020	.015	W/°C
R_{thJA}	Thermal Resistance, Junction-to-Ambient (Free Air Operation)	50	65	°C/W
	Linear Derating, Junction-to-Case	0.8	0.8	W/°C

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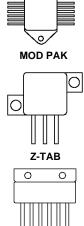
T-3 MECHANICAL OUTLINE

.430 .410 *B* .∞5 .100 TYP. ←.120 TYP.

M-PAK MECHANICAL OUTLINE



PACKAGE OPTIONS



- Standard Products are supplied with glass feedthroughs. For ceramic feedthroughs, add the letter "C" to the part number. Example OMXXXXCSA.
- MOSFETs are also available in Z-Pak, dual and quad pak styles. Please call the factory for more information.

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OM50N06SA ($T_{\rm c}$ =25°C unless otherwise specified)

	3	:	,			i :		1	:	:		1	:
Avalanch	Avalanche Characteristics	M∎n.	ξ	1	മ	lest Conditions	Avalanc	Avalanche Characteristics	M⊒	Jyp. M		m	lest Conditions
<u>æ</u>	Avalanche Ourrent			FS.	∀	(repetitive or	A.	Avalanche Current			<u>*</u> යි	A (Te	(repetitive or
L	S			Č		rorreceiline, 1 = 25 C)	L				+	Ŧ	nor-repellive, l_=25 C)
n S	Single Fulse Avalanche Energy				<u> </u>	(starting 1,=25°C; I ₁ =1 ₁₈ , V ₁₁₁ =25V)	П	Single Fulse Avalanche Energy		4	3	<u></u> E	(starting l_=25්ර h=lp, Vm=25V)
E A	Repetitive Avalanche Energy			8	E	(pulse width limited	Щ	Repetitive Avalanche Energy		_	<u>r</u>	교 교	(pulse width limited
<u>R</u>	Avalanche Qurrent			엏	∢	(repetitive or	AR.	Avalanche Current		(.)	<u>ر</u>	(rei	(repetitive or
į						non-repetitive, T_= 100°C)	:	:				<u>D</u>	non-repetitive, T_= 100°C)
Flectncal	Electrical Characteristics - OFF		-	=	ľ					-	E	ŀ	
VIERIDES	Drain-Source Breakdown Voltade	8			>	$I_D = 250 \mu \text{A, V}_{\infty} = 0$	Verposs	Drain-Source Broakchwn Voltana	8			<u>"-</u> >	l₀=250µA, V₀₃=0
	Zem Gate Voltage			250	Ą	V Max Bat	_	Zero Gate Voltage		0	250	t	V Max Bat
<u> </u>	Drain Current ($N_{\odot} = 0$)			38	<u> </u>	V _{TS} = Max Rat x 0.8, T _C = 125°C	8	Drain Qurent ($N_{\odot} = 0$)		1 +	_	? {	V _{IR} = Mex Rat x 08, T _C = 125°C
_88	Gate-Body Leakage			#100 #100	Æ	V _{SS} = ±20 V	_8	Gate-Body Leakage		`+ı	u 001∓	hA V _©	V _S = ±20V
Fection	Flectrical Characteristics - ON*						Florthic	Hochical Characteristics - ON*					
V	Gate Threshold Voltage	0		4	>	V = V L = 250 !! A	V.	Garle Threshold Votton	c	-	4	^^	V==V= L=250.1A
	Control Dain College	1		1 2	T	V = 10V = 20 A	<u> </u>	Catio Dain Course On	1		_		V = 10V = 25 A
(iv)	Salic Mall rounce of Resistance			8 8	3 C	VS=10 V, 1□=30 A T=100°C	(G) C	Scalic Drail recuire or Resistance		ט כ		ນ	VS= 10 V, 10=23 A T_= 100 C
L(w)	On State Drain Current	ß				Vrs > Iran x Recommen Vrs = 10V	Ē	On State Drain Current	ß				Vrs > Inn x Rramma Vrs = 10V
Electrical	Electrical Characteristics - Dynamic						Bectric	Electrical Characteristics - Dynamic			=		
ŏ.	Forward Transconductance	91			S	Vrs > Irm x Rramma In=30 A	ਰੱ.	Forward Transconductance	4		-	S V	Vrs > Inm x Branges In=25A
؈ۨ	Input Capacitance		2500			V _{DS} = 25 V	ථ්	InputCapacitance		2000	۵		V _{DS} =25V
ပ္ဖ	Output Capacitance		යි		<u>ь</u>	V _∞ =0	ပ္ဖ	Output Capacitance		8	Δ.		V _∞ =0
ပ္ခ်	Reverse Transfer Capacitance		250			f=1 mHz	ပ	Reverse Transfer Capacitance		300	۵	pF f=	f=1mHz
Electrical	Electrical Characteristics - Switching On						Electric	Electrical Characteristics - Switching On					
	Tum-On Time		무용		δ.	V _D =25V, l _D =55A	Ę.	Tum-On Time		4 8		ନ୍ଦ - ଦୁ	V _D =25V, l _D =29A
i -	Hise Ilme		33		_	F _c =50½, V _∞ =10 V	<u>.</u>			3 8	ב ;		H _E =4.752, V _{GS} =10.V
(divot)	Tum-On Current Slope		<u>8</u>		SHA	V _{ID} =40 V, I _D =55 A R _G =50 Ω, V _{SS} =10 V	(to)(b)			8	₹	A A ଆକ୍ଷ୍	$V_{\rm D} = 40 \text{ V}, I_{\rm D} = 50 \text{ A}$ $R_{\rm c} = 50 \Omega, V_{\odot} = 10 \text{ V}$
ගී	Total Gate Charge		92		ပ	$V_{co} = 25 \text{ V, } I_{c} = 30 \text{ A, } V_{cs} = 10 \text{ V}$	ď	Total Gate Charge		45	п	nC V _{II}	$V_{\rm ID}$ = 40 V, $I_{\rm D}$ = 50 A, $V_{\rm SS}$ = 10 V
Electrical	Electrical Characteristics - Switching Off						Electric	Electrical Characteristics - Switching Off					
T _(Nott)	Off Voltage Rise Time		8		<u>δ</u>	V _D =40V, l _D =55A	T _(Cross)	Off Voltage Rise Time		<u>8</u> 8		ଧ 	V _D =40V, l _D =50A
ۇ ئە ج	rall lime Gross-Over Time		3 g	94		⊓ੂ=ਤ∪ኔ∠, vੰਨਾ= ।∪ v	ۇ ئو د	Cross-Over Time		3 Kg			ന്ദ= 50½, vങ= 10 v
Electrical	Electrical Characteristics - Source Drain Diocle	Siocle					Bectric	Electrical Characteristics - Source Drain Diocle	Diocle		=		
<u>-6</u>	Source Drain Current			沃	A		_8	Source Drain Current		4,	900	4	
*MG	Source Drain Current (pulsed)			500	A		*NOS	Source Drain Current (pulsed)		2			
Nso	Forward On Voltage			91	^	₁₅₀ = 55 A, V _{cs} = 0	N _{SD}	Forward On Voltage			Н	Ħ	$_{5D}$ = 50 A, V_{GS} = 0
	Peverse Recovery Time			<u>8</u>	র্	I _{SD} = 55 A, di/dt = 100 A/µs V _C = 25 V, T, = 150°C	ئ	Reverse Recovery Time			<u>당</u>	ନ ଜୁ ୬	l _{so} = 50 A, di/dt = 100 A/us V _e = 30 V, T, = 150°C
ታ ፲፰	Reverse Recovery Charge Reverse Recovery Qurrent			55	Q⋖		ď₫	Reverse Recovery Charge Reverse Recovery Current			20 4	<u>.</u> 3∢	7
* 1	*Biboot: Bibool: Bibooks 300 Sold Sold Sold Sold Sold Sold Sold Sold	2	70%				<u>ā</u>	*Pilead Biles Distance 300 is Districted 15%	2 V V	%			
-		}]]	į				5		1	ş			

*Pulsed: Pulse Duration < 300 µS, Duty Oyde < 1.5%

 $\textbf{OM60N05SA}~(T_c\!=\!28^{\circ}\text{C}~\text{unless}~\text{otherwise specified})$

A	Action Actions			1	1	100	A. callana	Orani designation	يُ	ř	į	4	4 · · · · · · · · · · · · · · · · · · ·
HVGICEL			K	Nax.	2	lest conditions	HValla IIC			ı yp.		2	lest conditions
<u>æ</u>	Avaia la le cullett			3	× -	(repentitive or non-repetitive,T_J=25°C)	ar.	Avalandie Guillenn			3	¥	(repetitive of non-repetitive T_=25°C)
S _V	Single Pulse Avalanche Energy			90) — Du	(starting $T_J = 25^{\circ}C_s$) $I_D = I_{AD} \setminus V_{AD} = 25^{\circ}V$)	E _{AS}	Single Pulse Avalanche Energy			220	ш	(starting $T_{J} = 25^{\circ}$ C, $I_{D} = I_{JQ} \setminus U_{DD} = 25^{\circ}$ V)
EAR	Repetitive Avalanche Energy			<u>-</u> 8	교	(pulse width limited by T _{imme} 5 < 1%)	EAR	Repetitive Avalanche Energy			130	ם	(pulse width limited by T _{imae} , 5 < 1%)
äv	Avalanche Current			8	۸ ۱	(repetitive or non-repetitive, $T_J = 100^{\circ}$ C)	ar _l	Avalanche Quirent			34	А	(repetitive or non-repetitive, $T_J = 100^{\circ}$ C)
Electric	Electrical Characteristics - OFF						Electrics	Bectrical Characteristics - OTF					
V _(BP) V	S Drain-Source Breakdown Voltage	09			>	$I_{p} = 250 \mu \text{A}$, $V_{cs} = 0$	V _(BB) V	Drain-Source Breakdown Voltage	ශ			۸	$I_{\mathbf{p}} = 250 \mu \text{A}$, $V_{\mathbf{cs}} = 0$
ssa	Zero Gate Voltage			880	43		80	Zero Gate Voltage			8 8	AT.	Vos=Mex. Rat.
<u>%</u>	Gate-Body Leakage		1			$\sqrt{s_s} = \pm 20 \text{ V}$	<u>&</u>	Gate-Body Leakage			3 F F	¥ 2	$\sqrt{s_s} = \pm 20 \text{ V}$
	Current $(V_{DS} = 0)$							Ourrent ($V_{28} = 0$)					
Electric	Electrical Characteristics - ON*						Bectrico	Electrical Characteristics - ON*					
V (55(8))		2		4	٨	$V_{os} = V_{os}$, $I_{o} = 250 \mu A$	V GS(fb)	Gate Threshold Voltage	5		4	Λ	$V_{DS} = V_{GS} \cdot I_D = 250 \mu\text{A}$
R _{DS(cn)}						$V_{GS} = 10 \text{ V, } I_D = 25 \text{ A}$	R _{DS(cn)}	Static Drain-Source On			320	ប	$V_{gs} = 10 \text{ V}, I_{b} = 30 \text{ A}$
				989		T _c =100°C		Resistance			99	G.	$T_c = 100^{\circ}C$
D(cn)	On State Drain Current	ଜ			A	$V_{DS} > D_{CO1} \times P_{DSCO3/max}, V_{GS} = 10 \text{ V}$	D(an)	Iggg On State Drain Current	8			А	$V_{DS} > D_{CO1} \times P_{DS(CO1) max}, V_{CS} = 10 \text{ V}$
	Electrical Characteristics - Dynamic						Bectric	l Characteristics - Dynamic					
್ಟ್	Forward Transconductance	17				Vos > Igan X Rosanas Ip= 25 A	%	Forward Transconductance	16			S	Vos > Igan X Proscontara, Ip= 30 A
්	Input Capacitance	-	2000			V ₀₈ = 25 V	್	Input Capacitance		2200			V ₀₈ =25 V
ී -	Output Capacitance	•	8		<u>—</u> 仏	$V_{\mathbf{s}\mathbf{s}} = 0$	್ಟ್	Output Capacitance		8		띦	$V_{GS} = 0$
ာ	Reverse Transfer Capacifance		300			t=1mHz		Reverse Transfer Capacifance		8		PF	t=1mHz
Electric	Electrical Characteristics - Switching On				ı		Bedrio	Electrical Characteristics - Switching On			•		
	Tum-On Time		₽			$V_{DD} = 25 \text{ V}, \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	- (co)	Tum-On Time		110		δ	$V_{20} = 25 \text{ V}, \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
ţ,			8			$R_{\rm G} = 4.7\Omega$, $V_{\rm GS} = 10$ V	t,			300		В	$R_{\rm G} = 50 \Omega_{\rm o} V_{\rm os} = 10 V$
(di/dt),	" Tum-On Quirent Slope		500	Q.	<u> </u>	V ₂₀ =40V, l ₂ =50A R ₂ =50Ω, V ₂₈ =10V	(at/ct)	Tum-On Ourrent Slope		160		ANUS	$V_{zz} = 40 \text{ V} \cdot l_{z} = 55 \text{ A}$ $R_{z} = 50 \Omega \cdot V_{cz} = 10 \text{ V}$
ď	Total Gate Charge		₽		ر ا	$V_{20} = 40 \text{ V} \cdot \text{I}_{2} = 50 \text{ A} \cdot \text{V}_{38} = 10 \text{ V}$	ď	Total Gate Charge		8		Ö	$V_{20} = 25 \text{ V} \cdot _{D} = 30 \text{ A} \cdot \text{V}_{cs} = 10 \text{ V}$
Electric	Electrical Characteristics - Switching Off						Bedrice	Bectrical Characteristics - Switching Off					
$\perp_{\eta \wedge c g}$	Off Voltage Rise Time		160			$V_{DD} = 40 \text{ V} \cdot \mathbf{l}_{D} = 50 \text{ A}$	T (VOE)	Off Voltage Rise Time		160		Su	$V_{20} = 40 \text{ V}, I_{2} = 55 \text{ A}$
. د.	Fall Time		8 (က် ပ	R ₆ =50 വ. V _{os} =10 V	÷.	Fall Time		99		<u>رو</u> د	R ₆ =500, V ₆₈ =10V
ason,	Gass-Over Time	- Prof	<u> </u>		2		sox ₁	Class-Over Illine	1	320		2	
	Fedical Cranaderisads - course Drain Library	- - - -		G	<			Fedical Cranaderisads - course Drain Library	8 5		ä	<	
<u>8 8</u>	Source Drain Current (pulsed)				(<		8 <u>.</u>	Source Drain Current (pulsed)			3 8	(<	
\ So	Forward On Voltage			-	+-	sp=50A,Vss=0	S S	Forward On Voltage			1.6	٨	lsp=55 A, Vss=0
t,,	Reverse Recovery Time				ଥ	ls = 50 A, dikt = 100 A/us	, +	Reverse Recovery Time			90	ଥ	lgo = 55 A, di/dt = 100 A/us
♂ <u> </u>	Reverse Recovery Charge Reverse Recovery Current			2.0	ਰੋ ⊲	0 00 - 1 - 1 - 0 00 - 20	ð.	Reverse Recovery Charge Reverse Recovery Current			18 18	ðδ	0R-20 0, 1f-100 0
	*Pulsed: Pulse Duration < 300u.6. Duty Oxde < 1.5%	%e≤159	و. ا				7. 1988	*Pulsed: Pulse Duration < 300u.6: Duty Oxde < 1.5%	Ses 1] %			
i		!	j				-		1	į			

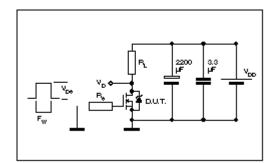
 $\textbf{OM50N06ST} \ \, (T_{\text{\tiny C}} = 25^{\circ}\text{C unless otherwise specified})$

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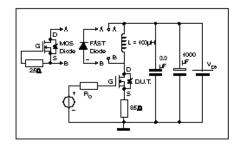
 $\textbf{OM50N05ST} \ \, (\text{T}_{\text{c}}\!=\!25^{\circ}\text{C unless otherwise speafied})$

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Avaiant	Avaianche Characteristics	Ē	Š.	2		lest Conditions	Avalance	Avaianche Characteristics	<u>.</u>	lyp. Max	Max	SE S	Units lest Conditions
_ E #	Avalanche Current			<u>. </u>	<u> </u>	(repetitive or non-repetitive,T_J=25°C)	<u>#</u>	Avalanche Current			<u></u>	∢	(repetitive or non-repetitive,T_=25°C)
E _{AS}	Single Pulse Avalanche Energy		7	400 n	<u></u>	(starting $T_{\mu} = 25^{\circ}C$, $I_{\mu} = I_{\mu\nu} V_{\mu\nu} = 25 V$)	E _{AS}	Single Pulse Avalanche Energy			9	뎔	(starting $T_J = 25^{\circ}$ C, $I_D = I_{DD} \setminus D_{DD} = 25^{\circ}$ V)
E _{AR}	Repetitive Avalanche Energy			100	<u> </u>	(pulse width limited by T _{imm} , 8 < 1%)	E _{AR}	Repetitive Avalanche Energy			90	골	(pulse width limited by T _{imen} , 5 < 1%)
<u>'</u>	Avalanche Qurrent			98) Y	(repetitive or	HV.	Avalanche Qurent			99	∢	(repetitive or
Electric	Electrical Characteristics - O干					(2 00 - 1 - 1 - 00 - 0)	Bectrica	Bectrical Characteristics - O开					(2001 - 1) - 100 (2)
V/BPDSS	: Drain-Source	ගි			<u> </u>	$l_{b} = 250 \mu \text{A, V}_{cs} = 0$	V _(BP) DSS	Drain-Source	8			^	$b_{\rm B} = 250 \mu \text{M}, V_{\rm cs} = 0$
SSC	Zero Gate Voltage				A A	$V_{os} = V tax$. Rat.	880	Zero Gate Voltage			920	μĄ	V _{os} =Max. Rat.
	Drain Current (V_{cs} =0)		-			$l_{ss} = Nlax Rat. x 0.8, T_c = 125^{\circ}C$		Drain Current ($V_{os}=0$)					$V_{os} = Wax Rat. \times 0.8 T_c = 125^{\circ}C$
<u>&</u>	Gate-Body Leakage		+1	9 F	<u>~</u> 2	V _{os} = ±20 V	<u>&</u>	Gate-Body Leakage		-	8	절	$V_{GS} = \pm 20 \text{ V}$
	Current $(V_{DS} = 0)$							Ourrent $(V_{DS} = 0)$					
Electric	Electrical Characteristics - ON*						Electrica	Electrical Characteristics - ON*					
V _{GS(fh)}		C1			۱ ۸	$V_{DS} = V_{GS} I_D = 250 \mu \text{A}$	\ (38%)	Gate Threshold Voltage	2		4	Λ	$V_{DS} = V_{GS}$, $I_D = 250 \mu \text{A}$
R _{DS(cn)}			_	920	\ ਲ	$V_{GS} = 10 \text{ V, } I_D = 25 \text{ A}$	R _{DS(cn)}	Static Drain-Source On			93		$V_{GS} = 10 \text{ V, } I_D = 25 \text{ A}$
			ī			$T_c = 100^{\circ}C$		Resistance			.066	Ω	$T_c = 100^{\circ}C$
Dian	On State Drain Qurrent	8			A \	$V_{DS} > I_{D(CO)} \times P_{DS(CO) max}$, $V_{GS} = 10 \text{ V}$	Dian	On State Drain Current	20			А	$V_{DS} > I_{DGOt} \times P_{DSGOthmor} V_{GS} = 10 \text{ V}$
Electric	Electrical Characteristics - Dynamic						Bectrica	Electrical Characteristics - Dynamic					
%	Forward Transconductance	- 41			Ē	Vos > Lyon X Rosconmo. Ip= 25 A	%	Forward Transconductance	17				Vos > Local X Prostantas. Ij= 25 A
ీ	Input Capacitance		5000		Ė	V _{DS} =25V	ိ	Input Capacitance		2000			V ₂₈ =25V
္တီ	Output Capacitance	•	90		<u>-</u> La	V _{ss} =0	()	Output Capacitance		98		띦	V _{ss} =0
್ಷ	Reverse Transfer Capacitance		300			f = 1 mHz	C.	Reverse Transfer Capacitance		300			f = 1 mHz
Electric	Electrical Characteristics - Switching On						Electrica	Electrical Characteristics - Switching On					
T	Tum-On Time		8	_		$V_{DD} = 25 \text{ V} \cdot I_{D} = 29 \text{ A}$	T don)	Tum-On Time		\$			$V_{ab} = 25 \text{ V} \cdot l_b = 29 \text{ A}$
t,			90	_	nS F	$R_G = 4.7\Omega \text{ V}_{GS} = 10\text{ V}$	t,			8		пS	$R_G = 4.7\Omega$, $V_{GS} = 10V$
(dr/dt),,	, Tum-On Current Slope		200	ď	/ Sdv	V ₂₀₂ =40V, l ₂ =50A R ₂ =50Ω, V ₂₆ =10V	(dr/dt),an	Tum-On Qurrent Slope		200	1	srļve	$V_{xx} = 40 \text{ V}, \mathbf{b} = 50 \text{ A}$ $P_{xx} = 50 \Omega, V_{xx} = 10 \text{ V}$
ਾਂ	Total Gate Charge		8	_	ر د	$V_{DD} = 40 \text{ V} \cdot \text{I}_{D} = 50 \text{ A} \cdot \text{V}_{SS} = 10 \text{ V}$	ď	Total Gate Charge		8		ပ	$V_{DD} = 40 \text{ V} \cdot \text{L}_{D} = 50 \text{ A} \cdot \text{V}_{SS} = 10 \text{ V}$
Electric	Electrical Characteristics - Switching Off				-		Bectrica	Electrical Characteristics - Switching Off			-		
T (VOE)	Off Voltage Rise Time		160	_		$V_{BD} = 40 \text{ V. } I_{D} = 50 \text{ A}$	T (VOE)	Off Voltage Rise Time		160		ξ.	V ₂₀ = 40 V, l ₂ = 50 A
حب	Fall Time		88	_		R ₆ =50Ω, V _{G8} =10 V	٠.	Fall Time		8		δ	R _e =50Ω, V _{cs} =10 V
t arose	Goss-Over Time		S S		ပ်		† arces	Gross-Over Time		8		ď	
• Electric	Electrical Characteristics - Source Drain Diode	Siocle					Electrica	Electrical Characteristics - Source Drain Diode	Diode				
_s	Source Drain Current				A		S	Source Drain Current			යි	٨	
* MOS	Source Drain Current (pulsed)		,,	200			* MCS	Source Drain Current (pulsed)			200	А	
\sigma_so	Forward On Voltage					$ \mathbf{s}_{\mathbf{s}} = 50 \text{ A, V}_{\mathbf{c}\mathbf{s}} = 0$	∧ So	Forward On Voltage			2	۸	$ \mathbf{s}_{\mathbf{o}} = 50 \text{A}, \text{V}_{\mathbf{cs}} = 0$
<u>, "</u>	Reverse Recovery Time		<u>. </u>	<u>양</u>	<u>က</u>	lso = 50 A, di/dt = 100 A/µs	,	Reverse Recovery Time			92	2	lgn = 50 A, divdt = 100 A/us
C	Bountso Borrango Charco			0		ν _R = 50 v, 1 _f = 150 C	C	Boxerso Boxerson Charge			0	Ç	ν _R =50 ν, ι _f =100 Ο
<u></u>	Reverse Recovery Current				} <		* <u>*</u>	Reverse Recovery Current			4	}∢	
<u>*</u>	*Pulsed: Pulse Duration < 300LS Duty Oxde < 15%	ole ≤ 1.59					Pulsed	"Pulsed: Pulse Duration < 300 LS Duty Ovde < 15%	Ce < 15	36			
i	A A TELLECTION OF THE PARTY OF	:	i					/ / Indianalist		į			

Switching Times Test Circuits For Resistive Load

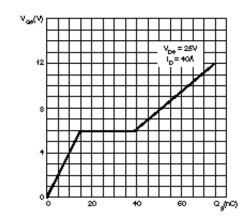


Test Circuit For Inductive Load Switching And Diode Reverse Recovery Time

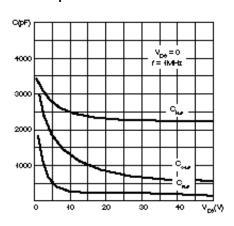


TYPICAL CHARACTERISTICS

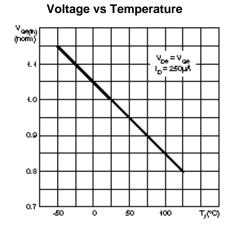
Gate Charge vs Gate-Source Voltage



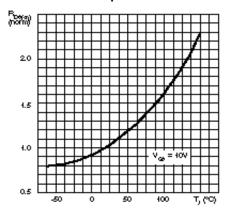
Capacitance Variations



Normalized Gate Threshold



Normalized On Resistance vs Temperature



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